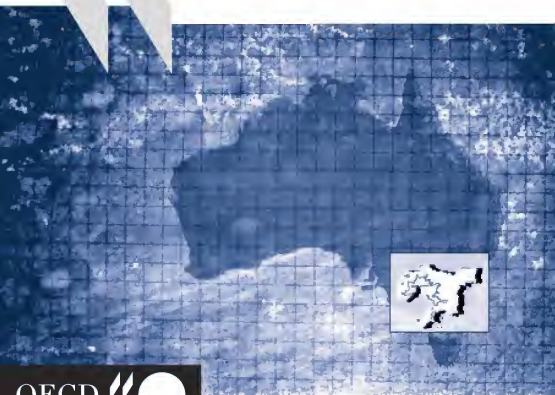




**OECD
Territorial Reviews**

**The Metropolitan
Region of Melbourne,
Australia**



OECD Territorial Reviews

Metropolitan Region of Melbourne, Australia



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Foreword

Melbourne, Australia's principal port, manufacturing city, and educational and cultural centre, is one of the first metropolitan regions in OECD to participate in a territorial policy review. This exercise came at a fortunate time, when the strength of the economic recovery underway in Australia provides an opportunity for reflection on the elements for a more sustainable future. Melbourne is not taking its future for granted. To guide development, the review considers how the environment for innovation and the growth of small firms can be improved, how infrastructure can support clusters and networks, how transport, housing and land use can be co-ordinated better in the city centre, in older and newer suburbs and on the urban fringe, and what a metropolitan strategy implies for better co-operation between state and local authorities. It is in this broad approach that Melbourne offers lessons for others.

Although Melbourne is the major metropolitan centre of the State of Victoria, its economy is inter-dependent with several regional centres, medium-size cities within approximately 100 kilometer radius. Challenges which the Victorian authorities recognise include: the redevelopment of the central business district of Melbourne, which can support higher productivity; providing for the expansion of the port, transport and logistics infrastructure, and 24-hour use of the Melbourne airport; improving public transport to reduce car dependency; and upgrading rail service to improve connections between Melbourne and the other cities around it. This requires actions and investments to be carried out in several places simultaneously, in co-operation with local authorities, and such a way that the public at large understands how the region as a whole is changing.

Concern about competitiveness and integration into the global economy is shared among metropolitan areas around the world. These are not local issues alone: with 80% of the Australian population living in cities, the prospects of the Australian economy are shaped in part by how well those cities perform. As a city relatively remote from the concentrations of activity in Asia, Europe and North America, Melbourne's comparative advantages include its high quality of life and quality public services. From this

perspective, liveability is an asset to be carefully managed. Critical choices made now about medium-term infrastructure investments, land use, housing, education and research will have an influence for years to come, which is why the State of Victoria drafted and adopted in 2002 a metropolitan strategy which has been shaped in part by the analysis of this metropolitan review.

The Melbourne review was supported by the Department of Infrastructure of the State of Victoria. Professor Lyndsay Neilson, Secretary of the Department, was instrumental in the review process. The support and assistance of John Collins, Director of Strategic Planning, and of Geoff Anson and Cathy Wilkinson, with responsibility for the metropolitan strategy, assured the co-operation with the Secretariat. This report was drafted under the supervision of Josef Konvitz, Head of Division, by Lindsay McFarlane and Anita Wöfl, Administrators in the Division for Territorial Reviews and Sustainable Development, Directorate for Public Governance and Territorial Development and with assistance on environmental issues by Charles-Henri Di Maria. Doris Grimm prepared the review for publication. Mr. Takayuki Hara, Delegate of Japan to the Territorial Development Policy Committee, was a peer reviewer; Greg Clark of the London Development Authority, Rosemary Scanlon, former chief economist of the Port of New York Authority and currently at the New York University, and Vincent Goodstadt, Structure Plan Manager, The Glasgow and Clyde Valley Joint Structure Plan Committee, contributed as experts; Kenneth Gibb of the University of Glasgow provided analysis on housing issues. The review is published under the authority of the Secretary-General.

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Assessment and Recommendations

Melbourne has made a successful recovery in the 1990s based on its assets...

Melbourne, Australia's second largest city, its principal manufacturing centre, its largest container port and leading base for research and higher education, has considerable assets on which to build a sustainable future. It deservedly enjoys world-wide recognition for a high quality of life, reflected in its neighbourhoods, natural amenities and the quality of urban design. After a sharp recession in the early 1990s, Melbourne's economy has recovered. The State of Victoria, moreover, has a strong fiscal position; unemployment has fallen from 11.6% in 1992 to 6.7% in 2002; and the State has a positive inter-state and overseas migration balance. But the factors of growth also raise questions about the future: how best to accommodate an expected additional 620 000 dwellings in the metropolitan area by 2030, how to cope with traffic congestion and expand the region's transportation and logistical infrastructure, and how to reduce disparities within the region. Melbourne has room to grow but it must use its space wisely, and find solutions that deliver economic, social and environmentally acceptable outcomes. Taking sustainability as its paradigm, the State Department of Infrastructure has elaborated a Strategy to help guide development, in draft form at the time of this territorial review.

... but this is not the time for complacency

To give Melbourne what a 21st century city-region needs, the State must give ongoing attention to the economic, social and environmental impact of planned and potential patterns of development in planning and managing transport and ICT-infrastructure. It should stimulate the potential for small enterprises to grow, in order to further increase exports; invest in basic research and education to further exploit the potentials for innovation and high-tech production; and capture the talents of a large, sophisticated design community. The State also needs to address social, economic and spatial disparities in housing, health and human capital; diversify people's options for transport, jobs and housing and strengthen ties between Melbourne and

regional centres. It needs to protect environmental quality, including managing the important assets of Port Philip Bay and the green wedges of the metropolitan area. And it needs to enhance the varied capacity for strategic planning across local municipalities in regards to strategic issues and planning.

The policy agenda in Melbourne illustrates the paradigm shift in territorial policy.

Globalisation means that cities such as Melbourne are becoming a part of international networks of production, research, education, finance, and trade which only partly serve domestic markets. The benchmarks for urban competitiveness and liveability therefore are set internationally. Territorial development policies which take account of the economic, social and environmental dimensions of metropolitan organisation complement national macro-economic and structural policies to enhance growth. They should correct weaknesses and market failures, develop local assets and improve policy coherence. The recent paradigm shift in policy is accompanied by institutional partnerships among different levels of government and by growing attention to public-private partnerships.

Transportation is a strategic sector critical for sustainable growth...

Transportation infrastructure can help assure balanced economic development across the region; and the transportation, distribution and logistics services industries are themselves an important aspect of Melbourne's competitiveness. The port industry in Melbourne is a unique and complex business operating, but also impacting simultaneously, on inland, coastal and marine environments. The port economy is characterised by the great range, diversity and volume of traffic, and linkages with firms throughout Victoria and beyond. Inter-modal integration and development of access roads and rail links should be a priority. Consideration should be given to developing "inland ports", central places where freight could be handled via rail, and which can be sited in areas where there is already some indication for localisation of industries. Inland-ports could also alleviate pressure in the central urban area and would be compatible with efforts to improve the movement of road freight around the city. The airport, which in contrast to Sydney has no curfew, constitutes a competitive advantage with potential for substantial growth to keep pace with strong increases in passenger and cargo traffic.

... and can be improved with appropriate economic and planning instruments.

An increased supply of infrastructure itself is not sufficient for long-term effective transportation management. A multi-nodal approach, favouring the development of mixed-use areas with many transport options, could help guide investment in ways that can increase public transport usage, which is low in Melbourne: the top 90 “trip attractors” generate 42 % of all daily work trips, with 16.5 % of those trips by public transport. Improvements to rail links with regional cities in Victoria could give people more options about where to work and to live, creating a larger functional labour market while preserving the essential characteristics of a polycentric, networked region. But all the proposed policies and strategies may not work if the incentives are not right. Road pricing for example could deliver further opportunities for efficient transport management. What is necessary is to assure the quality and efficient management of transportation, ensuring the freedom of people to travel without creating negative externalities. Changes in travel behaviour associated with the objective of increasing the proportion of people using public transport, walking, biking, etc., will only happen if the alternatives to the private car are made attractive, and are linked to changes in land use and the provision of affordable housing. Infrastructure also lends itself to public-private partnerships. It is clear that not all infrastructure projects are feasible with such a solution; public provision might even create some first-mover advantage. One main advantage of road pricing, especially in some form of public-private partnership, is that it would free up public resources that might be used more efficiently for other services, such as health and education.

Market reforms to boost use of ICT will stimulate innovation and lift productivity.

Complementarity between infrastructure, production and innovation is especially relevant for the information and telecommunications infrastructure (ICT). Melbourne has a broad net of ICT-infrastructure. However, there are indications of restricted access to, as well as under-utilisation of, the existing ICT-net – a phenomenon that might be due to the dominant position in both the ownership of the net as well as the downstream services held by the main ICT supplier in Australia. While Australia has already an impressive record in using ICT, introducing more competition and further promoting internet-based commercial opportunities

is recommended. It is noted that the de-regulation of the telecommunications market and its ongoing monitoring process is Commonwealth policy. This, however, does not preclude introducing policies on the state or local level that might further increase competition in the downstream service market which might have positive and self-perpetuating effects for innovation and firm growth. This would provide access to the ICT-net for all people, not only business and not only within a small area around the CBD; it would further increase the use of the net because of reduced prices and an increased provision of necessary information; and it would spur innovation within the ICT-industry and thus the ongoing upgrading of the underlying CAN.

*As Australia's leading centre for
education and research...*

Victoria shares with New South Wales the nation's leading role with regard to human and knowledge capital. The strong presence of universities, non-profit health research agencies, and Commonwealth institutions is matched by an above-average share of the labour force with a tertiary or university degree and, compared with other states, a high proportion of employees in management and administration or other professional occupations. Melbourne's multicultural atmosphere and immigrant communities are an asset for international trade, innovation and entrepreneurship, reinforced by the success of Victoria in attracting more undergraduates from abroad than other states. Major universities have a clear emphasis on providing business-relevant education and research, with an increasing emphasis on commercialisation of intellectual property. The state's overall research and development intensity is above-average within Australia.

*Melbourne has the foundation to
improve opportunities for innovation.*

Despite the strong role of Melbourne's and Victoria's human and knowledge capital within Australia, the share of research and development in universities is lower than in other states, which could undermine their role in basic research. Melbourne's challenge is to further improve its role as a base for knowledge research in order to reach a higher performance in all forms of education as well as basic and applied research in universities, research institutions and firms as compared to international standards. The state has taken many of the right steps to invest in the school system, support R&D and innovation activities, especially within SMEs, and promote a culture of life-long learning. More attention should be paid to high-tech or high-

growth industries. For instance, Victoria's manufacturing industry is concentrated on sectors such as motor vehicle and transport equipment. While some R&D-projects have been introduced, this is not yet reflected in the level of research and development; meanwhile, industries like photographic equipment and chemicals have a high R&D intensity, but still only a relatively low share of overall manufacturing employment and output.

The economy needs more firms in high-productivity and high-tech sectors and more outward-looking efforts to increase exports...

At present, Melbourne's strongest comparative advantages are in industries that are usually categorised as low-technology and non-R&D intensive. There is clearly room to lift exports in industries where Melbourne has a comparative advantage such as machinery and equipment, or chemicals and related product manufacturing. The regional concentration and co-operation of firms in high-productivity or high-tech industries might have a self-perpetuating effect: the long-term competitiveness of a region is reflected in the level and rate of growth of productivity, driven by knowledge and human capital. In this context, knowledge in a region about itself can be an asset, especially if it adds value to a tradition of innovation, problem-solving and excellence; Melbourne could exploit its own past better in this regard. Specific location factors, which include transportation infrastructure, land-use planning oriented to the needs of industries with clustering potential, the availability of skilled personnel, and the necessary infrastructure for communication, research and innovation, should enable firms to increase their inter-regional and international activity.

Infrastructure and cluster and innovation strategies have a potential for complementarity which has not been exploited.

There is a complementarity between infrastructure and innovation strategies, which calls for greater co-ordination. To enhance the attractiveness of Melbourne as a location for innovation, a strategy to foster precincts and centres of excellence is recommended. This can capture the positive networking effects, especially through the fast flow of information among participants in the innovation process. Melbourne has a number of "natural" precincts where firms with similar or complementary businesses have

tended to locate. For instance, there are already some clustering tendencies around universities which could be driven forward by the concepts of multi-use, multi-nodal centres with transport options. To safeguard such areas against encroachment by incompatible use and provide room for the growth of firms, some small-scale renewal to increase the range and size of sites and to improve their visual appearance may be necessary, thereby enabling these precincts to be marketed with a clear and positive image. Promotion of co-location of inter-related research activities and industries should be a priority. Infrastructure management and land-use planning can support these precincts and increase their potential.

*The labour market has changed
dramatically in the 1990s...*

Changes in the labour market reflect restructuring processes, deregulation and demographic trends. These include an increase in female participation in paid work, the growth in part time and casual work, lower job stability, the growth of service-sector employment and a growing occupation share by professional and managerial workers. Other changes include persistent higher rates of unemployment in manufacturing, the disappearance of full-time contracts of indefinite duration as the male norm in a deregulated labour market, and lower public sector employment. Unemployment has fallen but job gains and losses have not been uniform across the metropolitan region, suggesting a mismatch between skills and jobs in some areas. Unemployment levels range between 5.2 and 9.3 % (March 2002); recent immigrants and people born overseas in countries other than the main English-speaking ones have above-average rates of unemployment; and 38% of all unemployed are young people aged 15-24. More than 80% of new jobs were created outside the inner region in the period from 1971 to 1996, but unevenly. Excluding the central city area, the percentage of jobs south and southeast rose from 49 to 61%, while the percentage of jobs north and west fell from 49 to 37%. These changes have been mirrored in greater segmentation of the housing markets, and generate pressure for infrastructure improvements.

*... raising questions about the links
between jobs and housing which shaped
urban development in the post-war era.*

With regard to the Melbourne housing market, levels of investment and transactions, broad affordability, housing quality and choices are positive. Nonetheless housing, the major land use and an important factor in the

identity of communities, raises a number of sectoral or spatial problems. The stock of low and moderate cost private-rental housing is insufficient to meet current and potential demand. Although the housing market has recovered, the recession of the early 1990s left some households in a negative equity trap and has made some communities vulnerable to polarisation. Demographic change, furthermore, will affect household size and the demand for different housing types, with implications for the delivery of services, building codes and financing mechanisms. Due to the growth in employment in outer suburbs, only half of the jobs are in a zone covered by the tram network. Changes in job location, allied to changes in the organisation of work and the mobility of workers, may be reshaping the relationship between houses and jobs.

Linking education, housing, and location strategies can improve employment.

Targeted multi-sectoral policies are required to address the development of communities “at risk” in the region and to reduce economic and social polarisation, which current property market trends are exacerbating. Melbourne could promote a culture of life-long learning with joint programmes between schools and training institutes, and local businesses; community development programmes could link broad-band access with local educational programmes; and the supply of low-cost affordable housing should be increased in job-growth areas. More strategic location of both housing and jobs, such as government strategies to locate offices and services, can help target specific environmental, transport and social regeneration objectives, without additional cost to the public sector. These efforts can be co-ordinated by enhancing existing Community Building Initiatives. A networked city-region with improved transport links between metropolitan Melbourne and regional Victoria, and a more compact city, should take advantage of some of the drivers of change while broadening the choice of housing options.

Housing is critical in an overall strategy to reduce disparities and manage the physical assets of the region.

Because housing development patterns have environmental impacts and help influence life chances, a more integrative approach to housing is welcome, especially in relation to mixed-use, multi-nodal centres, management of

growth on the urban fringe, and a more explicit effort to widen transit options. Efforts should be sustained to create a more compact city at a high level of urban design; to produce strategies, including investments in community design ("place-making") to counter the consequences of lagging property markets in some areas; to examine the feasibility of alternative models to providing low-cost rental housing; and to assess and up-date on a regular basis policy instruments to manage an urban growth boundary to avoid placing undue pressure on land supply. Disparities in health across the metropolitan region highlight the linkage between health issues, jobs and housing, a relationship, which is gaining attention in OECD countries. There is the opportunity to link concerns about health and well-being into other policy areas, including planning decisions and community building strategies, thereby working to contain the rising cost of health care through indirect measures associated with other initiatives to improve living and working conditions.

Strategies for balanced development in metropolitan Melbourne should include the CBD...

In the past, efforts to guide development and investment have either emphasised the city centre or the suburbs. A balanced strategic approach should address the needs and opportunities of specific areas throughout the metropolitan region. Notwithstanding the considerable investment in the central business district in recent years for regeneration (a new precinct along the Yarra River at Southbank, a new convention centre, new museums and the Federation Square complex), a stronger co-ordination and co-operation between the State of Victoria and the City of Melbourne would be favourable for an enhanced well-elaborated and integrated strategy for the central business district. Historically, and Melbourne is no exception, the resilience and adaptability of an urban economy most often involve selective change in the urban core, which becomes emblematic of the metropolitan region as a whole. The recent growth of residential population in the CBD and the potential for growth in the nearby Docklands area favour a central educational and cultural role for these parts of the metropolitan region, as well as acting as a centripetal force for the main financial and business service firms, domestic and foreign, and as a retail centre. The improved rail links with regional centres are likely to focus on the city centre and selected growth corridors.

... and consideration of an urban growth boundary.

The application of an urban growth boundary should be considered. A growth boundary could allow development in outer suburban growth areas to continue but would redirect some investment within the region. Although there are costs as well as benefits associated with an UGB, an assessment of its impact on housing, the environment and the distribution of jobs should be weighed against the impact of development without an UGB.

The State takes the lead in guiding territorial development.

Australia's six States and two Territory Governments are the primary suppliers of many urban services and the principal agents for land-use planning at the metropolitan level. Services provided by this tier of government include primary and secondary education, public hospitals, child health services, prisons, main roads, public transport, police and some emergency services. Increasingly, States and Territories have moved to commercialise or privatise their statutory authorities. Local governments provide physical and human services, and are involved in local development control and planning. They are required by State Government to develop municipal planning schemes, giving a local expression to the State Planning Policy Framework. Restructuring of Victorian councils under the Kennett Government (1992-99) reduced the number of local authorities from 210 to 78. Victoria, along with most Australian States, has one major urban centre, also the State capital, which is the sole metropolitan area. States have therefore traditionally played a major role in metropolitan issues. But Municipal Planning Schemes are the principal vehicle for land use and planning control; therefore, local governments will play a pivotal role in ensuring the success of any metropolitan strategy, particularly through the local application of State policy via the Municipal Strategic Statements which are a component of every local planning scheme.

There is a solid foundation on which to expand co-operation between the State and other actors...

A number of partnerships involving different State departments, specialised agencies, other levels of government, business and civil society have been formed to tackle complex situations in specific locations, such as the delivery of major co-ordinated investments in the City of Melbourne, and

the Docklands, a Latrobe Valley Ministerial Taskforce, and the Community Building Initiatives under the Department of the Premier which is developing 10 pilot projects to regenerate areas suffering from acute socio-economic problems. Taking the Victorian institutional structure into account, the assessment of this review is that the State's initiatives are demonstrating how the OECD principles of metropolitan governance can be applied. The reform and modernisation of State planning, State "Triple-bottom line" policies, and the Metropolitan Strategy all combine into a framework for economic, social and environmentally sustainable development.

... and in particular with local authorities.

To improve the balance between top-down and bottom-up approaches, and to improve co-ordination and co-operation among local municipalities:

- State and local governments could co-operate on establishing a regular forum to examine general questions and key issues. This would fill an existing gap insofar as there is no permanent or regular metropolitan forum affording an ongoing exchange of views. The Metropolitan Strategy contains an outline of policy-relevant issues which could form the basis for these discussions. Participation in the forum should include all levels of government, business, NGOs and leaders of civil society.
- The skills and professional competencies of local authorities will need to be enhanced to correspond to an upgrading of their roles and responsibilities, to assure an adequate supply of qualified staff to support implementation of State policies and programmes. Cross-sectoral co-ordination within State Departments and in co-operation with local authorities calls for a new professional culture.

Questions of public finance should be examined...

In general, Victoria and Melbourne exert a sound fiscal performance. The budget shows a surplus and the Victorian treasury has reduced its long-term debt. There are however aspects where improvement would still be possible. Taking account of Commonwealth-State financial relations, especially after recent reforms, and of the role of the State's Local Government Grants Commission, the State and the local governments of the Melbourne metropolitan region have very limited tax autonomy. This is not necessarily reflected in the amount of tax revenues, but rather in the fact that State and

local governments have to cover their outlays by raising taxes which have a narrow tax base, which might have distortionary effects, or which are not desirable from an equity point of view. Introducing some more tax sharing elements would increasingly take the “capacity to pay” into consideration and would thus improve the concordance between revenues and outlays. While these are federal issues and thus outside the direct State and local fiscal autonomy, the fiscal management within Melbourne could be improved by a more intensive co-ordination of the local government areas in order to better internalise the positive and negative spillover effects within the Melbourne metropolitan region. In addition to a metropolitan forum, this could take the form of a club of municipalities or a regional development agency for the metropolitan region as a whole.

State leadership remains critical in the Victorian system of governance.

The State of Victoria, through its current and proposed policies, is in general addressing the right issues, recognising the need to build on existing strengths, to address some of the existing and potential bottlenecks in infrastructure, anticipate an economic structure characterised by knowledge-intensive and internationally competitive industries, enhance a strong knowledge and human capital base, promote entrepreneurship and firm growth and take advantage of the potential for stronger agglomeration effects and clustering. State programmes, furthermore, aim to address the cause of problems, not their symptoms, thereby promising that public expenditure will be efficient and promote private investment and initiative.

The Metro Strategy – towards a comprehensive policy approach...

A comprehensive policy approach which stresses co-operation and complementarity can reduce the risk of duplication of support. And it has the advantage that several issues are addressed at the same time. This is a key feature of the Department of Infrastructure’s Metropolitan Strategy in relation to guiding land use, improving transportation, and enhancing the quality of the environment. The Strategy recognises that the territory of the metropolitan region must be treated in holistic fashion. The objective should be the integration of economic, social and environmental issues and a clear understanding of their inter-relationships. To be truly comprehensive, all State Government strategies and actions would need to involve all relevant stakeholders and complement the Metropolitan Strategy. The benefits of committing to a long-term strategy include reducing transaction costs and

lowering the risks to the private sector. Given the high level of social capital in Melbourne and the successful recovery of the State's economy and public finances, it should be possible for Victoria to combine fiscal prudence with a vision for the future that can accelerate the process of matching outcomes to goals.

International comparisons show that city regions can develop unique, successful strategies...

All three comparative case studies, Lille, Manchester and Boston, highlight the need for creating a pattern of development that ties in and benefits regional centres around them – something which is already an explicit objective of the DOI Metropolitan strategy for Melbourne. An important lesson for Melbourne is that planning frameworks can give investors confidence. However, these frameworks should have a higher degree of flexibility to accommodate change than more traditional, prescriptive land-use planning. The Lille case study highlights the potential added value of improved transport links at the regional and international scale, an issue of great importance for metropolitan Melbourne whose economy is still relatively inward-looking. The Manchester case study highlights the importance of scale in helping to create the scope for more seamless cross-sectoral strategies. It also highlights the role that marketing and image-creation can play to change perceptions inside and outside an area. This is reinforced by the lessons from Boston concerning the importance of a risk-taking culture, and the potential that Melbourne has with regard to its unique offerings of culture, architecture and arts.

... that improve overall performance.

Australia, whose urban system is itself polycentric in ways that can be compared with Canada, Germany, and the Netherlands, will benefit if its major cities play to their respective strengths. A favourable national macroeconomic policy framework exists in which the private sector can invest for growth. Given Melbourne's role in Australia's economy, gains to that region's economy could lift the country's overall performance, and would induce other metropolitan economies in that country to improve their competitiveness.

Évaluation et recommandations

Dans les années 90 Melbourne a enregistré une nette reprise, grâce aux atouts dont elle dispose...

Melbourne, deuxième ville d'Australie, en est le principal centre manufacturier, le plus grand port de conteneurs et la plus grande base de recherche et d'enseignement supérieur, et possède des atouts considérables pour se construire un avenir durable. Elle est connue à juste titre dans le monde pour sa grande qualité de vie, dont témoignent ses micro-environnements, ses aménités naturelles et la qualité de son urbanisme. Après une forte récession au début des années 90, l'économie de Melbourne s'est redressée. Par ailleurs, l'État de Victoria a une situation budgétaire solide ; le chômage y a baissé de 11.6 pour cent en 1992 à 6.7 pour cent en 2002 ; et l'État présente un solde migratoire positif vis-à-vis des autres États et de l'étranger. Mais les facteurs de croissance posent aussi des questions pour l'avenir : comment intégrer au mieux 620 000 habitations supplémentaires prévues dans la zone métropolitaine d'ici 2030, comment faire face aux encombrements de la circulation et développer les infrastructures logistiques et de transport de la région, enfin comment réduire les disparités à l'intérieur même de la région. Melbourne a de l'espace pour s'étendre, mais doit en faire une sage utilisation et trouver des solutions qui aboutissent à des résultats économiques, sociaux et environnementaux acceptables. Autour du principe de durabilité, le ministère de l'Infrastructure de l'État a élaboré une stratégie de développement qui est encore à l'état de projet au moment du présent examen.

... mais il ne faut pas s'arrêter là.

Pour donner à Melbourne ce dont une ville-région du XXI^e siècle a besoin, il faut que l'État se préoccupe de l'impact économique, social et environnemental des modes de développement prévus et potentiels dans la programmation et la gestion des infrastructures TIC. Il lui faut stimuler la croissance des petites entreprises, afin d'accroître encore les exportations ;

investir dans la recherche fondamentale et l'enseignement pour exploiter davantage les potentiels d'innovation et de production de haute technologie ; et assurer les talents des nombreux concepteurs de haut niveau qu'il peut avoir à sa disposition. L'État doit aussi s'attaquer aux disparités économiques et spatiales dans les domaines du logement, de la santé et du capital humain ; diversifier les possibilités de transport, d'emploi et de logement et renforcer les liens entre Melbourne et les centres régionaux. Il lui faut protéger la qualité de l'environnement, notamment par la gestion de l'important patrimoine que constituent Port Philip Bay et les espaces verts de l'aire métropolitaine. Enfin, il lui faut renforcer la capacité de planification stratégique au niveau de l'ensemble des collectivités locales pour les questions d'importance stratégique et leur programmation.

*Les préoccupations affichées
aujourd'hui à Melbourne illustrent le
changement de conception de sa
politique territoriale.*

La mondialisation signifie que des villes comme Melbourne font désormais partie de réseaux internationaux de production, de recherche, d'enseignement, de finance et de commerce qui ne sont plus tournés uniquement vers les marchés intérieurs. Les repères de comparaison de la compétitivité et de la vivabilité des villes sont désormais fixés internationalement. Les politiques de développement territorial qui prennent en compte les dimensions économique, sociale et environnementale de l'organisation métropolitaine viennent compléter les politiques macro-économiques et structurelles nationales pour renforcer la croissance. Il faut qu'elles corrigent les faiblesses et les défaillances du marché, qu'elles développent les atouts locaux et qu'elles améliorent la cohérence des politiques. Le récent changement de conception de ces politiques s'accompagne de partenariats institutionnels entre les différents échelons de gouvernement et d'une place croissante des partenariats public-privé.

*Les transports sont un secteur
stratégique critique pour une
croissance durable...*

Les infrastructures de transport peuvent aider à assurer un développement économique équilibré dans l'ensemble de la région ; les secteurs des transports, de la distribution et des services logistiques sont eux-mêmes un aspect important de la compétitivité de Melbourne. Son secteur portuaire constitue un complexe d'activités unique en son genre, qui fonctionne à la

fois dans des environnements terrestre, côtier et maritime sur lesquels il n'est pas sans impact. L'économie portuaire se caractérise par la grande diversité et le fort volume de son trafic, et des liaisons avec les entreprises de tout l'État de Victoria et au-delà. L'intégration intermodale et le développement de routes d'accès et de voies ferrées doivent être prioritaires. Il faudrait envisager de développer des « ports intérieurs », centres où le fret pourrait arriver par le rail et qui pourraient être implantés dans des zones où existent déjà des possibilités de localisation d'industries. Ces ports intérieurs pourraient en même temps alléger la pression au niveau de la zone urbaine centrale, et seraient compatibles avec les mesures visant à améliorer les mouvements de fret routier autour de la ville. L'aéroport, qui contrairement à celui de Sydney, peut fonctionner 24 heures sur 24, constitue un avantage compétitif avec son potentiel important de croissance qui peut lui permettre de faire face à de forts accroissements de trafic de passagers et de fret.

*... qui peut être amélioré si l'on utilise
les instruments économiques et de
planification appropriés.*

L'offre accrue d'infrastructures ne permet pas à elle seule d'assurer une gestion efficace des transports sur le long terme. Une approche multinodale favorisant le développement de zones à usage mixte comportant de nombreuses options de transport, pourrait permettre d'orienter les investissements de façon à accroître l'usage des transports en commun, qui est faible à Melbourne : les 90 destinations les plus attractives génèrent 42 pour cent des déplacements de travail quotidiens, dont 16,5 pour cent par transports en commun. L'amélioration des liaisons ferroviaires avec les cités régionales de l'État de Victoria pourrait donner à la population plus de choix quant à leur lieu de travail et leur lieu de vie, et créer un marché du travail fonctionnel plus vaste tout en préservant les caractéristiques essentielles d'une région polycentrique maillée en réseau. Mais quelles que soient les politiques et stratégies proposées, elles risquent de ne pas fonctionner si elles ne s'accompagnent pas d'incitations adaptées. Les péages routiers par exemple pourraient offrir des possibilités supplémentaires de gestion efficiente des transports. Ce qu'il faut, c'est assurer à la fois la qualité des transports et leur gestion efficiente, de manière à donner à la population la liberté de se déplacer sans créer d'externalités négatives. Les changements de comportement qu'implique l'objectif consistant à accroître la proportion des personnes qui se déplacent en transport en commun, à pied, en vélo, etc., ne se produiront que si les alternatives à la voiture sont suffisamment attrayantes et liées à des modifications de l'occupation des sols et à la disponibilité de logements abordables. Les infrastructures aussi se prêtent à des partenariats public-privé. Il est clair que tous les projets d'infrastructure

ne sont pas réalisables dans ce cadre ; une infrastructure publique pourrait même servir de précurseur. Un grand intérêt des péages routiers, surtout dans le cas d'un partenariat public-privé, est de libérer des ressources publiques qui seraient plus utiles dans d'autres domaines comme la santé et l'éducation.

Des réformes du marché visant à développer l'utilisation des TIC stimuleront l'innovation et accroîtront la productivité.

La complémentarité entre infrastructure, production et innovation vaut particulièrement pour l'infrastructure de l'information et des télécommunications (TIC). Melbourne en possède un vaste réseau, mais il semble que l'accès en soit encore restreint et qu'il soit sous-utilisé – phénomène qui est peut-être dû à la position dominante du principal fournisseur-opérateur de TIC en Australie, aussi bien en termes de propriété du réseau que de services aux clients. L'Australie présente déjà un niveau d'utilisation des TIC impressionnant, mais il conviendrait d'introduire plus de concurrence dans ce secteur et de promouvoir encore davantage les possibilités de commerce sur Internet. La dérégulation du marché des télécommunications et son suivi relèvent du Commonwealth. Cela n'empêche toutefois pas de prendre au niveau de l'État ou au niveau local des mesures qui permettraient de développer la concurrence sur le marché des services aux clients, ce qui pourrait avoir des effets positifs et durables pour l'innovation et la croissance des entreprises. Cela permettrait d'ouvrir l'accès au réseau TIC à tout le monde, et non pas seulement aux entreprises ni seulement sur un territoire réduit autour du quartier central des affaires ; cela développerait encore l'utilisation du net, du fait de la baisse des prix et de la multiplication des informations fournies ; en outre, cela stimulerait l'innovation dans le secteur des TIC et par conséquent la poursuite du perfectionnement du réseau d'accès aux abonnés.

En tant que premier centre d'enseignement et de recherche d'Australie...

L'État de Victoria partage avec les Nouvelles-Galles du Sud le premier rang du pays sur le plan du capital humain et des connaissances. La forte présence d'universités, d'organismes sans but lucratif de recherche en santé, et d'institutions du Commonwealth fait qu'il y a une proportion supérieure à la moyenne de possesseurs de diplômes tertiaires ou universitaires et, par

rapport à d'autres États, une forte proportion de salariés dans la gestion, l'administration, professions libérales ou d'encadrement. Le climat multiculturel et la présence de communautés immigrées sont un atout pour les échanges internationaux, l'innovation et l'entrepreneuriat, renforcé par le fait que l'État de Victoria réussit à attirer davantage d'étudiants étrangers que les autres États. Les grandes universités sont très axées sur l'enseignement et la recherche tournés vers l'entreprise, et attachent de plus en plus d'importance à la commercialisation de la propriété intellectuelle. L'intensité globale de recherche et développement de l'État de Victoria est supérieure à la moyenne de l'Australie.

Melbourne dispose des bases nécessaires pour améliorer les possibilités d'innovation.

Malgré l'importance du rôle du capital humain et de connaissances dont jouissent Melbourne et l'État de Victoria par rapport au reste de l'Australie, la part de la recherche et du développement dans les universités est plus faible que dans les autres États, ce qui risque de restreindre leur rôle dans la recherche fondamentale. L'enjeu pour Melbourne consiste donc à développer encore son rôle en tant que base de recherche de connaissances, afin d'améliorer ses performances dans tous les modes d'enseignement ainsi que dans la recherche fondamentale et appliquée au niveau des universités, des établissements de recherche et des entreprises, par rapport aux normes internationales. Il existe à Melbourne un potentiel de relèvement de son niveau de recherche et développement au-dessus de la moyenne, par rapport à d'autres pays de l'OCDE. L'État a pris beaucoup de bonnes mesures pour investir dans le système scolaire, le soutien de la R-D et de l'innovation, surtout au niveau des PME, et promouvoir une culture d'apprentissage tout au long de la vie. Mais il faudrait qu'il accorde davantage d'attention aux industries de pointe ou de forte croissance. Ainsi, l'industrie manufacturière du Victoria est concentrée dans des secteurs tels que le secteur automobile et les équipements de transport. Si certains projets de R-D ont été lancés, cela ne se traduit pas encore dans le niveau de recherche et développement ; dans le même temps, des industries comme le matériel photographique et la chimie ont une forte intensité de R-D, mais représentent encore une part relativement faible de l'emploi et de la production dans l'ensemble du secteur manufacturier.

L'économie a besoin d'un plus grand nombre d'entreprises dans les secteurs à haute productivité et haute technologie et de s'ouvrir davantage vers l'extérieur afin d'accroître les exportations...

À l'heure actuelle, les principaux avantages comparatifs de Melbourne se situent dans des secteurs généralement classés comme à faible intensité de technologie et de recherche et développement. Il y a de toute évidence place pour une augmentation des exportations dans les secteurs où Melbourne possède un avantage comparatif, tels que machines et équipements, chimie et produits manufacturiers connexes. La concentration et la coopération régionales d'entreprises des secteurs de haute productivité ou de haute technologie pourraient avoir un effet qui s'auto-alimente : la compétitivité à long terme d'une région se manifeste par le niveau et le taux de croissance de la productivité que permettent le capital de connaissances et le capital humain. Dans ce contexte, la connaissance qu'une région a d'elle-même peut être un atout, surtout si elle vient compléter utilement une tradition d'innovation, de résolution de problèmes et d'excellence ; à cet égard, Melbourne pourrait mieux exploiter son propre passé. Des facteurs locaux spécifiques tels qu'infrastructures de transport, aménagement foncier axé sur les besoins des industries qui peuvent se regrouper, disponibilité de personnel qualifié, et existence des infrastructures nécessaires pour la communication, la recherche et l'innovation, devraient permettre aux entreprises de développer leur activité aussi bien interrégionale qu'internationale.

Il existe un potentiel de complémentarité inexploité entre les stratégies concernant les infrastructures, les regroupements d'industries et l'innovation.

Il existe entre les stratégies d'infrastructure et d'innovation une complémentarité qui appelle à une plus grande coordination. Pour renforcer l'attrait de Melbourne en tant que lieu d'innovation, il conviendrait d'adopter une stratégie qui favorise des aires de regroupement et des centres d'excellence, afin de bénéficier des effets positifs de la mise en réseau, en particulier en permettant une transmission rapide d'informations entre les participants à un processus d'innovation. Melbourne possède un certain nombre d'aires « naturelles » de regroupement où les entreprises ayant des

activités analogues ou complémentaires ont eu tendance à s'implanter. Il existe par exemple déjà des tendances au regroupement autour des universités, qui pourraient être favorisées par un contexte de centres multi-usages, multinodaux dotés de diverses possibilités de transport. Pour préserver ces zones d'un empiétement par des usages non compatibles et laisser suffisamment de place pour la croissance des entreprises, il pourra être nécessaire de procéder à quelques rénovations de façon à accroître le nombre et la taille des sites et à améliorer leur apparence, leur donnant ainsi une image claire et positive permettant de mieux les commercialiser. Promouvoir la co-implantation d'activités de recherche et d'industries mutuellement liées devra être une priorité. La gestion des infrastructures et l'aménagement foncier peuvent y aider et accroître le potentiel de ces zones.

*Le marché du travail a
considérablement changé dans les
années 90...*

Les changements intervenus sur le marché du travail découlent des processus de restructuration, de déréglementation et des évolutions démographiques. Il y a notamment eu un accroissement des taux d'activité féminine, un développement du travail à temps partiel et précaire, une faible stabilité de l'emploi, une croissance des emplois dans le secteur tertiaire et une part croissante de l'emploi occupée par les cadres et spécialistes. Parmi les autres changements observés, on peut citer la persistance de taux élevés de chômage dans le secteur manufacturier, la disparition des contrats à plein-temps de durée indéterminée en tant que norme du travail masculin, suite à la déréglementation des marchés, et un recul de l'emploi dans le secteur public. Le chômage a diminué, mais les gains et les pertes d'emplois n'ont pas été uniformes à travers la région métropolitaine, ce qui témoigne d'un décalage entre les compétences et les emplois. Les niveaux de chômage se situent entre 5,2 et 9,3 pour cent (mars 2002) ; les immigrants récents et les personnes nées à l'étranger dans des pays non anglophones accusent des taux de chômage supérieurs à la moyenne ; par ailleurs, 38 pour cent des chômeurs sont des jeunes de 15 à 24 ans. Plus de 80 pour cent des nouveaux emplois ont été créés en dehors de la zone centrale au cours de la période de 1971 à 1996, mais de façon inégale. Si l'on exclut le centre-ville, le pourcentage d'emplois au sud et au sud-est a augmenté de 49 à 61 pour cent, tandis qu'au nord et à l'ouest il a diminué de 49 à 37 pour cent. Ces changements se sont traduits par une forte segmentation des marchés du logement, et appellent à une amélioration des infrastructures.

... ce qui soulève des questions sur les liens entre emploi et logement qui ont marqué le développement urbain de l'après-guerre.

S'agissant du marché du logement à Melbourne, les volumes d'investissement et de transactions, les prix généralement raisonnables, la qualité et le choix des logements sont autant de facteurs positifs. Néanmoins, le logement, qui constitue l'essentiel de l'occupation des sols, en même temps qu'un facteur important d'identité des collectivités, pose un certain nombre de problèmes sectoriels ou spatiaux. Le stock de locations privées à loyer faible ou modéré est insuffisant pour répondre à la demande actuelle et potentielle. Même si le marché du logement a repris, la récession du début des années 90 a piégé certains ménages et rendu certaines communautés vulnérables à la polarisation. Par ailleurs, l'évolution démographique va modifier la taille des ménages et la demande des différents types de logements, ce qui aura des incidences au niveau de fourniture des services, des normes de construction et des mécanismes de financement. Du fait de la croissance des emplois en grande banlieue, la moitié seulement des emplois se trouvent dans une zone desservie par le réseau de tramways. Les changements de lieu d'emploi associés aux changements dans l'organisation du travail et la mobilité des travailleurs, risquent de modifier complètement la relation entre le logement et l'emploi.

La coordination des stratégies en matière d'éducation, de logement et de lieu d'emploi peut améliorer la situation de celui-ci.

Des politiques multisectorielles ciblées sont nécessaires pour assurer le développement des communautés « à risque » de la région et réduire la polarisation économique et sociale que les tendances actuelles du marché foncier accentuent. Melbourne pourrait promouvoir une culture de l'apprentissage tout au long de la vie, avec des programmes communs entre les établissements scolaires et de formation, et les entreprises locales ; des programmes de développement communautaire pourraient conjuguer l'accès aux réseaux à large bande et des programmes éducatifs locaux ; enfin l'offre de logements à coût abordable devrait être accrue dans les zones de croissance de l'emploi. Une localisation plus stratégique des logements et des emplois, notamment par des politiques publiques d'implantation des bureaux et des services, peut aider à cibler des objectifs spécifiques d'environnement, de transport et de régénération sociale, sans coûts

supplémentaires pour le secteur public. Ces efforts peuvent être coordonnés en renforçant les initiatives locales de construction déjà existantes (Community Building Initiatives). Une cité-région en réseau dotée de meilleures liaisons de transport entre l'agglomération de Melbourne et le reste de l'État de Victoria, ainsi qu'un caractère plus compact de la cité, devraient profiter de certains des moteurs du changement tout en élargissant le choix des possibilités de logement.

Le logement est capital dans une stratégie globale visant à réduire les inégalités et à gérer les atouts physiques de la région.

Les types de constructions de logements ayant des impacts sur l'environnement et aussi sur les chances de leurs habitants dans l'existence, une approche plus intégratrice du logement est souhaitable, surtout dans le contexte de centres multinodaux et polyvalents, d'une gestion de la croissance sur les franges urbaines et d'un effort plus concret pour élargir les possibilités de déplacement. Il importe de poursuivre les efforts pour créer une ville plus compacte, caractérisée par un urbanisme de haut niveau ; pour mettre en place des stratégies, avec investissement dans l'aménagement local intégré, qui remédient aux conséquences de marchés fonciers défavorisés dans certaines zones ; pour examiner la faisabilité d'autres modèles de logement locatif à faible coût ; et pour évaluer et actualiser périodiquement les instruments nécessaires pour gérer une frontière de croissance urbaine. Les disparités qui existent au niveau de la santé à travers la région métropolitaine mettent en lumière les liens qui existent entre les problèmes de santé, l'emploi et le logement, liens sur lesquels les pays de l'OCDE commencent à se pencher. On peut intégrer les préoccupations de santé et de bien-être dans d'autres domaines de la politique, notamment dans les décisions concernant la planification et dans les stratégies de construction locale intégrée, ce qui permettrait de maîtriser la hausse du coût des soins de santé par des mesures indirectes liées à d'autres initiatives visant à améliorer les conditions de vie et de travail.

Les stratégies pour un développement équilibré de la métropole de Melbourne doivent comprendre le quartier central des affaires...

Dans le passé, les efforts d'orientation du développement et des investissements ont mis l'accent tantôt sur le centre-ville tantôt sur les

banlieues. Une approche stratégique équilibrée devrait prendre en compte les besoins et les possibilités de zones spécifiques réparties dans toute la région métropolitaine. Malgré les montants considérables investis dans le quartier central des affaires ces dernières années pour le rénover, l'aménagement d'une nouvelle zone le long de la Yarra River sur la rive sud, un nouveau centre de congrès, de nouveaux musées et le complexe du Fédération Square, une coordination et une coopération plus étroites entre l'État de Victoria et la ville de Melbourne permettraient de mettre en place une stratégie encore mieux élaborée et intégrée pour le quartier central des affaires. Historiquement, et Melbourne ne fait pas exception, la résilience et l'adaptabilité d'une économie urbaine impliquent le plus souvent une modification sélective du noyau urbain, qui devient emblématique de l'ensemble de la région métropolitaine. La croissance récente de la population résidente dans le quartier central des affaires et le potentiel de croissance de la zone voisine des Docklands permettent à ces secteurs de la région métropolitaine de jouer un rôle éducatif et culturel central, tout en servant de force centripète pour les principales entreprises nationales et étrangères dans le domaine des finances et des services aux entreprises, en même temps que de centre de commerce de détail. L'amélioration des liaisons ferrées avec les centres régionaux sera probablement axée sur le centre-ville et certains couloirs de croissance.

... et la prise en compte d'une frontière de croissance urbaine.

Il faudrait étudier de façon plus approfondie le concept d'une frontière de croissance urbaine. Cette frontière n'empêcherait pas forcément les banlieues qui se trouvent au-delà de continuer à se développer, mais redirigerait certains investissements à l'intérieur de la région. Même si une telle frontière implique non seulement des avantages mais aussi des coûts, une évaluation de son impact sur le logement, l'environnement et la répartition des emplois devra être comparée à l'impact d'un développement sans limite de la croissance urbaine.

C'est l'État qui pilote le développement territorial.

Les six États et les deux Territoires de l'Australie sont les principaux fournisseurs de nombreux services urbains et les principaux agents d'aménagement du territoire au niveau métropolitain. Les services assurés par cet échelon des pouvoirs publics sont l'enseignement primaire et secondaire, les hôpitaux publics, les services de santé infantile, les prisons,

le réseau routier principal, les transports publics, la police et certains services d'urgence. De plus en plus, les États et les Territoires commercialisent ou privatisent leurs établissements publics. Les collectivités locales fournissent des services matériels et humains et participent à la planification et au contrôle du développement local. Elles doivent élaborer des plans locaux compatibles avec les plans métropolitains. La restructuration des conseils du Victoria sous le gouvernement Kennett (1992-99) a réduit le nombre de collectivités locales de 210 à 78. Le Victoria, comme la plupart des États d'Australie, comporte un grand centre urbain, qui est aussi la capitale de l'État, et qui est la seule zone métropolitaine. C'est pourquoi les États jouent traditionnellement un rôle majeur dans les questions métropolitaines. Mais les mécanismes municipaux de planification sont le vecteur principal de l'aménagement et de la planification ; c'est pourquoi les autorités locales ont un rôle capital à jouer pour assurer le succès de toute stratégie métropolitaine et l'application de la politique de l'État au travers des documents de stratégie municipale qui font partie de tout mécanisme local de planification.

Il existe déjà une base solide pour étendre la coopération entre l'État et les autres acteurs...

Un certain nombre de partenariats réunissant différents ministères de l'État de Victoria, organismes spécialisés, autres échelons de gouvernement, entreprises et société civile ont été constitués pour s'attaquer à des situations complexes dans des lieux particuliers, notamment pour assurer la coordination des grands investissements dans la cité de Melbourne et les Docklands, un groupe d'étude spécial ministériel sur la Latrobe Valley et les initiatives de construction locales relevant des services du Premier ministre qui élabore actuellement 10 projets pilotes de régénération de zones souffrant de problèmes socio-économiques aigus. Si l'on tient compte de la structure institutionnelle de l'État de Victoria, on peut estimer que ses initiatives démontrent la façon dont peuvent s'appliquer les principes de gouvernance métropolitaine édictés par l'OCDE. La réforme et la modernisation de la planification par l'État, sa politique fondée sur trois piliers, et le projet de Stratégie métropolitaine constituent ensemble un cadre de développement économique, social et environnementalement durable.

... et en particulier avec les autorités locales.

Pour améliorer l'équilibre entre les approches vues d'en haut et vues d'en bas et améliorer la coordination et la coopération entre collectivités locales :

- L'État et les collectivités locales pourraient coopérer à la mise en place d'un forum périodique d'examen des questions générales et des problèmes majeurs. Cela comblerait une lacune car il n'existe actuellement pas de forum métropolitain permanent ou périodique qui permette un échange de vues continu. Le projet de Stratégie métropolitaine donne une esquisse des questions qui pourraient servir de base à ces discussions. Ce forum devrait réunir tous les échelons de gouvernement, les entreprises, les ONG et les personnalités marquantes de la société civile.
- Les compétences et aptitudes professionnelles des collectivités locales devront être renforcées à la mesure de leurs nouveaux rôles et responsabilités, afin d'assurer une offre adéquate de personnel qualifié pour aider à la mise en œuvre des politiques et programmes de l'État. Une coordination intersectorielle à l'intérieur des ministères au niveau de l'État et en coopération avec les collectivités locales demande une nouvelle culture professionnelle.

Les questions de finances publiques doivent être examinées...

D'une façon générale, les performances budgétaires de l'État de Victoria et de Melbourne sont saines. Le budget est excédentaire et le Trésor public du Victoria a réduit sa dette à long terme. Des améliorations restent néanmoins possibles sur certains aspects. Compte tenu des relations financières entre le Commonwealth et l'État, surtout depuis les récentes réformes, et du rôle de la Commission de dotation aux collectivités locales, l'État et les collectivités locales de la région métropolitaine de Melbourne ont en réalité très peu d'autonomie fiscale. Cela ne se reflète pas nécessairement dans le montant des recettes fiscales, mais plutôt dans le fait que l'État et les collectivités locales sont obligés de couvrir leurs dépenses en levant des impôts dont l'assiette est très étroite, qui pourraient introduire des distorsions, ou qui ne sont pas souhaitables du point de vue de l'équité. D'autre part, introduire davantage d'éléments de répartition fiscale prendrait mieux en compte la « capacité de payer » et améliorerait ainsi la concordance entre recettes et dépenses. Ce sont là des questions d'ordre fédéral, qui n'entrent donc pas dans le cadre de l'autonomie budgétaire directe de l'État et des collectivités

locales ; cela dit, la gestion budgétaire à Melbourne pourrait être améliorée par une coordination plus intense entre les différentes collectivités locales afin de mieux internaliser les retombées positives et négatives à l'intérieur de la région métropolitaine de Melbourne. En dehors d'un forum métropolitain, cela pourrait prendre la forme d'un club de municipalités ou d'une agence de développement régional pour l'ensemble de la région métropolitaine.

Le rôle pilote de l'État reste capital dans le système de gouvernance de l'État de Victoria.

L'État de Victoria, par ses politiques actuelles et proposées, aborde en général les bonnes questions, reconnaissant la nécessité de renforcer les atouts existants, de traiter certains des goulots d'étranglement existants et potentiels des infrastructures, de prévoir une structure économique caractérisée par des secteurs d'activité à forte intensité de savoir et internationalement compétitifs, de renforcer une base de capital humain et de connaissances déjà forte, de promouvoir la création d'entreprises et leur développement et de tirer parti du potentiel d'effets d'agglomération et de regroupement. Qui plus est, les programmes de l'État visent à s'attaquer à la cause des problèmes et non à leurs symptômes, de sorte qu'on peut s'attendre à ce que les dépenses publiques soient efficaces et encouragent l'investissement et l'initiative privés.

La stratégie métropolitaine – vers une approche globale...

Une approche globale qui met l'accent sur la coopération et la complémentarité peut réduire le risque de doubles emplois. Et elle a aussi l'avantage de permettre de s'attaquer à plusieurs problèmes en même temps, ce qui est une caractéristique essentielle du projet de stratégie métropolitaine du ministère de l'infrastructure pour ce qui est de l'occupation des sols, de l'amélioration des transports et de celle de la qualité de l'environnement. Le projet reconnaît que le territoire de la région métropolitaine doit être traité de façon globale. L'objectif doit être d'intégrer les questions économiques, sociales et environnementales et de bien connaître leurs interrelations. Pour être véritablement globale, une stratégie de l'État pour l'aire métropolitaine de Melbourne devrait être étroitement liée aux stratégies et programmes de tous les ministères compétents et nécessiterait la participation des collectivités locales et des représentants des entreprises et de la société civile. S'engager sur une stratégie à long terme a notamment pour avantage

de réduire les coûts de transaction et les risques pour le secteur privé. Compte tenu du niveau élevé de capital social qui existe à Melbourne et du redressement réussi de l'économie et des finances publiques de l'État, celui-ci devrait pouvoir conjuguer la prudence budgétaire et une vision de l'avenir qui permette d'accélérer la réalisation des objectifs.

*Les comparaisons internationales
montrent que les cités-régions peuvent
développer des stratégies spécifiques
qui réussissent...*

Les trois études de cas comparatives, Lille, Manchester et Boston, soulignent la nécessité de créer un mode de développement qui englobe les centres régionaux qui les entourent et leur profite aussi – c'est déjà là un objectif explicite du projet de stratégie du ministère de l'Infrastructure pour Melbourne. Un enseignement important qu'on peut en tirer est que les cadres de planification peuvent donner confiance aux investisseurs. Ces cadres devraient toutefois offrir plus de souplesse d'adaptation que les plans plus traditionnels et plus stricts d'aménagement du territoire. L'étude de cas de Lille met en lumière la valeur ajoutée potentielle de l'amélioration des liaisons de transport au niveau régional et international, aspect qui présente également une grande importance pour la métropole de Melbourne, dont l'économie est encore relativement fermée sur elle-même. L'étude de cas de Manchester met en lumière l'importance de l'échelle à laquelle on travaille pour permettre de mettre sur pied des stratégies transsectorielles plus homogènes. Elle met aussi en lumière le rôle que peuvent jouer le marketing et la création d'image pour changer les perceptions que l'on a de la région considérée aussi bien à l'intérieur qu'à l'extérieur. Ceci est renforcé par les enseignements tirés du cas de Boston concernant l'importance d'une culture de prise de risques, et le potentiel que recèle Melbourne avec ses atouts irremplaçables dans les domaines de la culture, de l'architecture et de l'art.

*... qui améliorent la performance
globale.*

L'Australie, dont le système urbain est lui-même polycentrique un peu comme ceux du Canada, de l'Allemagne et des Pays-Bas, tirera avantage de la mise en valeur par les grandes villes de leurs atouts respectifs. Il existe un cadre national de politique macro-économique favorable, qui permet au secteur privé d'investir pour la croissance. Étant donné le rôle de Melbourne dans l'économie australienne, les gains que pourrait réaliser l'économie de

cette région pourraient relever encore la performance globale du pays, et inciter ses autres économies métropolitaines à améliorer leur propre compétitivité.

Chapter 1
Metropolitan City Regions

Urbanisation and Development

Urbanisation has been a part of the process of development for centuries. Before there was an economic rationale for concentrating institutions of higher education, theatres, libraries and hospitals in cities, the foundation and growth of such facilities helped to promote literacy and improved living conditions. Innovations flowed from urban workshops and were diffused through trade routes. The phenomenon of novelty – the expectation of something new – has endured as a distinctive feature of the consumer economy in cities since the Renaissance. City-based law courts, chambers of commerce, and market regulations provided for the enforcement of contracts, property rights and transfer before the rise of the nation-state, and modes of participation, albeit limited, were largely concentrated in local government. Banks, and later insurance, were established to reduce the risks associated with long-distance commerce, essential to meet the food supply in pre-industrial conditions whenever a city's population reached about 10 000.

The expansion of urban economic capacity provided the basis for several successive phases of industrialisation since the mid-18th century. Cities have continued to attract people in search of opportunity. And because the problems of organising work and daily life in cities provoked innovations for urban improvements, cities grew progressively larger without a loss of efficiency or reduction in wealth. The historical record, which is an important demonstration of cumulative causation, shows that cities have the potential to become self-generating or self-developing. A city of 100 000 was very large in Renaissance Europe; a million inhabitants was sustainable at the start of the industrial revolution; and cities of 10 million or more could be found by the middle of the twentieth century. As cities grew in size, the concept of democracy was extended not only through an expansion of voting and other civic rights, but also through the development of the concepts of pluralism, which makes a virtue of social and cultural diversity, and of welfare, which extends essential services to all. Immigration or religious and ethnic minorities boosted the economies of 17th century London and Amsterdam, 18th century Berlin, 19th century

Vienna and Budapest. Rights and benefits which have been extended to all citizens were often introduced within an urban context.

This is an important point to note now that more than half the world's population will soon live in cities. Urban populations have been multiplied by 20 since 1900, whereas the total world population has increased fourfold. In developing countries, urban growth is expected to average 2.3 per cent per year in the period 2000-2030, but rural areas will grow slowly, at just 0.1 per cent. It is no exaggeration to say that the achievement of sustainable development depends in part on whether cities in developing countries are able to offer people more opportunities while reducing environmental burdens and social disparities. Megacities, with 10 million or more inhabitants are already home to 9.8 per cent of the world's urban population. Many more people will also live in very large urban regions. Developing countries are urged not to repeat the mistakes made in the past in developed countries. Sustainable development strategies should not follow growth but accompany it, before problems become critical and the costs of remediation prohibitive. The exchange of lessons of experience and best practice between OECD countries and developing countries will be critical to the effort to shift the emphasis from growth as a goal by itself, to growth as a means of achieving a more sustainable path of development.

Over time, the definition and form of urban areas have changed, perhaps more than their characteristics. This chapter will begin with definitional issues, concentrates on the characteristics of urban areas and an overview of their strengths, weaknesses, opportunities and threats, and concludes with a brief survey of strategies for urban development.

Definitions

About 40 per cent of the population of OECD countries lives in predominantly urban areas (where less than 15% of the population live at a density below 150 people per square kilometre), but these cover less than 3 per cent of the land. When account is taken of the population living in cities in rural and intermediate areas, the percentage of people living in cities is about 70 per cent. No country however is average in this way; in the OECD as a whole, the national shares of population living in urban communities range from more than 90 per cent in the Netherlands and Belgium, to about 50 per cent in parts of Scandinavia and Turkey. Urbanisation, meaning a shift in population from rural to urban areas, is still strong in Korea, Turkey and Mexico. There are counter-urbanisation trends in some countries (United Kingdom, Germany), referring to a trend away from large, established cities toward rural and intermediate regions.

There is no uniform, widely accepted definition of a city by size, in part because the size of settlements is relative to the size of the country: a small city would have 100 000 inhabitants in China, but only a few thousand in Portugal or Canada. In some countries, cities have an independent status in a national constitution (Germany, Switzerland); in others (United States, Australia), they are created by states. A city is a contiguous, dense settlement dominated by manufacturing and the service sector, often with a continuous existence extending for centuries.

In economic terms, a city is characterised by a small primary sector, manufacturing, and a large and usually growing share of tertiary and quaternary activities. Typically, a city has a higher daytime than night-time population, based on commuter flows. The suburbs around a city were formerly largely residential in character, largely dependent upon the city to which they were attached; it is increasingly common today however for suburbs also to attract workers due to a diversification of their economic base. Definitions are complicated by the fact that municipal boundaries rarely coincide with the functional labour-market area. In most metropolitan areas, more than half the population lives outside the core city, in suburban zones which have increased their share of employment as well as of housing; as a result, radial commuter patterns in and out of a city represent a shrinking share of all trips, most of which are generated exclusively within suburbs. A city and its suburbs form a metropolitan area, but the size of the functional labour market may extend into rural parts beyond the urban boundary defined by contiguous settlement. (A growing percentage of urban workers are now commuting long-distance by high-speed or inter-regional trains.) Describing the “quintessentially polycentric” structure of a global city-region, Sir Peter Hall lists the following locations, each with a characteristic functional role: the traditional downtown centre based on walking distances, a newer business centre often in an old prestigious residential quarter, an internal edge city on old industrial or transport lands (often a waterfront), an external edge city near an airport or major transportation node, an outermost edge city which might be in a satellite city beyond the greenbelt, and numerous specialised sub-centres throughout the metropolitan region (Hall, 2001).

Today, the OECD has three of the six largest cities in the world: Tokyo, Mexico City and New York. By 2010, Tokyo will remain the largest city, but the second-largest will be Mumbai (Bombay), followed by Lagos and Sao Paulo; Mexico City will rank 5th, followed by Dhaka and then New York. The cities in OECD countries remaining in a list of the 30 largest cities in the world is expected to include Los Angeles, Istanbul, Osaka, Seoul and Paris. Cities such as Chicago, London and Essen (the German Ruhr basin) will no longer figure in the list of the 30 largest cities simply

because the smallest city in the list in 2000 will have 7 million inhabitants, but the smallest in the list in 2010 would have 8 million. Many cities in the larger OECD countries are larger than any of the small and medium OECD Member countries, but lack the policy competences of states in matters of justice, monetary policy, defence, etc. In his path-breaking book *Megalopolis*, Jean Gottmann defined the megalopolis as an urbanised region composed of several inter-connected cities and of the rural spaces between them, the symbiosis of urban and rural being one of his themes (Gottmann, 1961).

Characteristics

Mobility and demographic trends. What distinguished urban phenomena, in Gottmann's view, was not size alone, but movements or flows, consisting of daily commuting patterns, the volume of freight shipments, flows of messages, creating "*patterns of intense living*". How this process occurs, what sustains it, and how the problems generated by its very dynamic character can be solved – these questions directed Gottmann's attention to critical issues concerning how space is managed, how the economy can be developed, and how policies can be implemented among different levels of government. Although some of the terminology has changed, forty years later, these issues remain central to an inquiry into metropolitan regions.

Two demographic trends related to mobility need to be mentioned: the rate at which people change addresses, and immigration. Cities are very complex, dynamic social and economic environments, whose internal parts are constantly recomposing. The turnover in a city which overall remains the same size can be impressive. One-third of the people living in Berlin today were living somewhere else in 1990, yet the city is only slightly larger in population now than before. Consistent figures on household relocations are not kept, but estimates range from below 10 to over 20 per cent a year. This movement is itself a factor in urban development, leading to new housing starts and changes in the housing market, as well as to demand for a wide range of services. It is also driven by changes in social structure, as households shrink in size and as households with a married couple and children living at home now may describe no more than 20 per cent of the urban population overall. For centuries cities were net importers of people, depending on surplus rural labour for growth. Now domestic migration is more commonly between cities. Moreover, the majority of cross-border migrants settle in cities, and usually the largest ones. The implications for national policies are clear: integration strategies must be defined in relation to urban services, job opportunities, housing, and the like.

- The percentage of Europe's population living in large cities is growing in central and southern regions (the populations of Lisbon, Athens and Madrid doubled or more between 1950 and 1990), but declining in the north (e.g., in the UK, Germany, Netherlands, Belgium, Austria, Sweden and Norway).
- Moreover, there is a tendency for urban areas to grow through outward expansion at progressively lower densities, meaning that the size of a metropolitan region in square kilometres is increasing faster than its population. In the greater Chicago area, population grew by 4 per cent between 1970 and 1990, but the amount of land used for housing increased by 46 per cent and for commercial development by 74 per cent.
- The overall ageing of the population is another trend that affects cities differentially: some cities see rising percentages of older people either because they are stagnating or because older people are attracted to living there, and migrate; other cities, even in countries such as Germany and Japan with rapidly rising percentages of older people, actually have above-average percentages of younger people.
- The per cent of foreign-born residents living in large metropolitan areas is usually well above national averages; in cities as small as 300 000 people there may be people from 100 different countries, and in the largest metropolitan centres, people from 200 countries.

Accessibility. Cities function in networked systems. Transportation and communication networks multiply the connections among cities. On average, 13 kilometres separate a city of 10 000 inhabitants in the European Union from its nearest neighbour; in the United States; the average distance between two cities is 48 kilometres. A European can go from one city to another in 15 minutes, travelling at a speed of 60 km/h; an American would travel 45 minutes. But these averages, of course, mask great differences from one region to another: from the highly urbanised corridor between Boston and Washington in the Northeast United States to the Great Plains; or from the densely settled areas of Belgium, the Netherlands and south-eastern England, to parts of Norway, Finland and Sweden, where the average distance between cities exceeds 63 kilometres. The introduction of high-speed trains on the European continent further alters the time/distance equation. Urban rail centres are increasingly important as transport hubs within cities and as retail and commercial destinations in their own right,

with a significant influence on street patterns and transport. Air bridges have been established between Tokyo-Sapporo, Melbourne-Sydney, New York-Chicago, Los Angeles-San Francisco. Airports traditionally have been ranked for their services for passengers (number of connections), but increasingly cargo matters (night flights, ground transport access and speed).

Division of labour and competition are supported by cities. The size of urban labour markets and the range of firms located in cities permit specialisation, which in turn raises efficiency. Because the market is large and the turnover of goods is greater, producers are challenged to differentiate their products, thereby creating a demand for innovation. Because more firms are competing in the marketplace, there is a tendency for standards to rise progressively as well, with improvements in quality leading to gains in productivity. Sectoral division and diversification in manufacturing and services help to limit the effects of external shocks.

Agglomeration effects reduce transaction costs because customers and suppliers can deal with each other more directly and develop long-term relationships. In addition, cities – and especially today larger cities which attract global or regional corporate headquarters – provide access to decision-makers. Certain infrastructure services can be offered sooner or more economically in cities, as is the case now with broadband telecommunications; other services, such as direct international air service, depend on a large local market. Certain specialised business services can only be offered profitably in larger cities (Quigley, 1998). Economies of scale which reduce production and transaction costs can also be grasped by small firms and specialised firms through concentration of activity by area (giving rise to clusters and networks of firms).

Physical capital in cities is not only measured by the equipment of firms, but also by the stock of buildings and infrastructure facilities. Much of the fixed capital stock of countries is invested in housing and commercial property; real estate price movements have a major impact on bank lending and consumer spending; and local governments often rely heavily on property taxes in their tax base. The construction sector is a major employer characterised by a skilled labour force, many small firms, and some major firms with significant international business.

Social capital is enhanced by the density and multiplicity of local community and neighbourhood organisations, and by civic groups that represent interests that cut across the population. Individuals stand a better chance of meeting like-minded people in a larger city. Public services for the environment, health, education and the like can reduce risks or spread them across the society, thereby motivating people to tackle outstanding problems. It is not surprising therefore that education and health are often

the largest employers in cities. The role of the media, to inform people about local issues and provide contextual background for public opinion, is too frequently overlooked.

There are however *negative externalities* such as congestion costs associated with cities, most visible and irritating in the form of transport congestion and a deterioration in the quality of air and water, noise levels, in crime, mental illness and infectious disease, and limited access to recreational facilities, as well as in over-heated property and housing markets. These negative externalities are not internalised by firms and households, and may only show up as a direct cost in the long term (e.g., lost wages or higher health costs due to a poor environment). Other examples of negative externalities relate to the failure to maintain or improve areas with concentrations of social housing or economic activities associated with noise and other unwanted environmental effects, which might even lead to dis-investment from areas otherwise well-served by infrastructure, and the relocation of households and firms to greenfield sites. This process often handicaps the task of organising a metropolitan region as a whole to deliver environmental, economic and social objectives. This may lead to higher overall costs to achieve a given level of environmental quality which in turn can have knock-on effects on competitiveness. The fiscal contribution to support urban services is unevenly distributed, reflecting administrative boundaries that no longer correspond to the functional region. Thus some people living in one part of the urban region have access to the same quality of services provided elsewhere in the region, but at a lower cost. Often, this takes the form of a fiscal deficit for the central city, which is responsible for a wider range of services that benefit the region as a whole; it is not surprising therefore if some part of the electorate is frustrated by paying for services enjoyed by others who do not pay the same level of tax.

Many of these negative externalities relate to the interaction between economic activities and social patterns in space. Because density and movement are key parameters for the organisation of cities, it is important to note *the impact of spatial planning on agglomeration effects* (as well as on environmental quality and community development). For virtually all of the 20th century, planning resulted in the functional separation of land uses. Zoning set aside land for residential, commercial, industrial and civic uses; urban services such as education, water, transportation and health were organised into separate bureaucracies which worked in parallel, and were managed by experts whose professional training reinforced a sectoral approach. This form of development was consistent with an economy of heavy, labour-intensive manufacturing, linked by relatively fixed connections by rail and sea. In the Fordist era, when the reallocation of labour meant that cities grew rapidly through in-migration (frequently from

rural areas, but also from stagnating urban regions), uniform housing and in general a similar treatment of spatial structures and commercial and retail facilities meant that newcomers could more easily find their place in the city. Equally, a zoned pattern of land uses corresponded to a pattern of day and night use of space, both in residential and economically active areas. This system worked well enough through the 1970s when energy costs were low, land was readily available, and industry continued to grow in cities. Aside from considerations of historic preservation, city-building was not adapted to the task of identifying and enhancing specific local needs and assets such as open and recreational space, access to rivers, neighbourhoods and districts distinguished by their architectural and social features, etc.

The shortcomings of the zoned industrial city became glaringly evident as factories and rail yards closed and many urban sites became abandoned (often with the risk of contaminated land, or urban brownfields), as social problems became concentrated in many housing projects, and as pressures arose to add new commercial and retail properties in urban centres. Debates about what should be done have often highlighted weaknesses in existing urban planning procedures which can be highly conflictual and litigious, while raising the level of awareness about design issues in the public at large. This urban pattern of static, zoned uses is increasingly anachronistic in an economy dominated by the service sector, with an emphasis on high value-added processing (which absorbs fewer natural resources per unit of output), very small (often home-based) firms, flexible and multi-nodal transport connections, and on flows of data and information, and of people. Clusters and districts are as much a phenomenon in some parts of the service sector as of manufacturing. Now that in cities, culture is a major employer and not a leisure activity, and more meals are eaten outside than inside the home, the division between daytime and night-time activities in separate areas has broken down.

In the post-Fordist, knowledge-based economy, highly qualified professionals can choose where to live from among different cities on the basis of their appearance, lifestyle and ambience. From this perspective, quality of design and more efficient use of infrastructure become critical in an overall strategy for competitiveness. A more sustainable approach to the uses of space, to infrastructures and to buildings seeks to enhance the assets – and hence the liveability and attractiveness – of particular cities. The growth of inner-city residential populations, which seemed utopian ten years ago, is now a commercial reality, thanks in part to entrepreneurial-led property development. Development strategies build on the interest in places captured by the construction of new, dramatic museums and cultural facilities designed by world-famous architects in depressed areas in cities such as Glasgow, Bilbao, Cleveland and Kitakyushu. By providing a context

for social interaction, and above all, by supporting large labour market, cities nurture a Marshallian environment in which tacit knowledge can circulate. But as Sir Peter Hall observed, people who have explained the phenomenon of creativity have not even tried to address the question of “the location of creativity” (Hall, 1998:14); “they are deliberately, rather infuriatingly, aspatial; they are entirely uninterested in the question of what happens where, and why” (*idem*, p. 14).

The benefits of cities are therefore a composite combining economic efficiency and productivity together with quality housing, services and a high level of urban design. Positive externalities of this kind enable firms to use inputs more efficiently, reflected in larger tax revenues, the growth of intra-sectoral trade, the volume of patents and innovations, higher salaries, and higher levels of consumer spending (Prud’homme, 1996; Jaffe, et.al., 1993). Firms that make best use of the specific territorial capital in a metropolitan area – the stock of local assets, tangible and intangible – will perform better. Many of the economic trends affecting cities, such as trade liberalisation, appear exogenously, *i.e.*, independently of the local social environment, whereas entrepreneurship and innovation are more contextual. Although development indexes are still in their infancy, it is increasingly recognised that a high quality of life is important to competitiveness as well as to sustainability (Glaeser, 2001). Many social trends appear to emerge directly out of the dynamic, complex setting of the city itself. The challenge for an integrative approach which includes social trends and outcomes is that data on education levels, crime rates, and health conditions, among others, are often difficult to obtain and interpret. To date, much of the focus in such indexes has been on the environment, partly because an institutional and policy framework exists for regulation in this sphere: large cities tend to be resource-saving, relative to smaller cities, and denser urban areas use less energy for transport.

On average for OECD countries, one-quarter of national GDP is generated by a single region, and half of national GDP by the first five regions, which are usually major urban regions. The attractiveness of a major city appears to be vital to a nation’s global competitiveness, but from the point of view of central government, this involves weighing the needs of a large urban region against the needs of the rest of the country. It is understandable that so much media attention focuses on mega-cities: their size and complexity pose major policy problems in terms of governance, infrastructure, environmental conditions, land use and the like.

Table 1.1. Regional concentration of GDP in OECD countries

	Share of first region ²	Share of first 5 regions ³	Coefficient of variation of per capita GDP ¹
		1997 ⁴	
Hungary	42.2	60.9	35.9
Ireland	39.0	64.1	23.8
Greece	37.4	60.9	12.9
Finland	37.3	60.2	22.6
Denmark	32.8	51.8	27.3
Japan	30.8	49.4	30.0
Portugal	30.4	59.0	32.2
Norway	30.0	53.1	33.0
France	29.5	39.5	45.2
Austria	29.1	51.8	30.6
Sweden	25.2	63.0	10.9
Australia	25.0	65.7	18.6
Mexico	23.1	50.9	56.0
The Netherlands	22.3	55.3	11.3
Czech Republic	22.1	44.1	33.0
Switzerland	21.0	58.7	14.0
Italy	20.0	57.0	26.6
Belgium	20.0	46.6	23.1
Poland	19.7	43.6	23.6
Canada	18.5	45.1	14.1
United Kingdom	17.2	26.1	45.9
Spain	16.9	43.9	22.3
United States	10.2	26.6	20.0
Germany	9.0	35.0	26.3
OECD	25.4	50.2	31.0

1. For Australia, Canada, the United States and Switzerland: the total household income including social transfer income has been used.

2. For some countries, the regions have been grouped into functional metropolitan regions to determine the share of aggregate GDP (or aggregate household income) that comes from the largest region.

3. Only the first three regions for Belgium, Denmark, Greece, Ireland, the Netherlands, Poland, Switzerland and the Czech Republic.

4. 1995 for Japan, Mexico and Norway; 1996 for Australia, Canada and Germany.

Source: OECD Territorial Outlook, 2001.

Strengths and Weaknesses

Many strengths which relate to the diversification, size and specialisation of urban economies; to the opportunities to create new firms and to an environment which can be favourable to their growth; to a well-educated workforce and an education infrastructure; and to the accessibility of cities, have already been identified above. Additional strengths include: the heterogeneous and diverse population of cities, especially the immigrant communities of major cities which enrich cultural and neighbourhood life

and provide a source of new business formation; large professional communities in law, the design fields, medicine, engineering, accountancy, etc., usually well-networked nationally and internationally to obtain the best expertise; and the presence of many media services, providing contrasting yet comprehensive information about the region for its inhabitants.

In general, the weaknesses commonly found across the urban world include:

- widening disparities within regions; problems of affordable housing; the persistence of distressed urban areas;
- poor links between universities and the private sector; lack of critical mass in certain sectors; shortages of skills; over-dependence on a single sector;
- transport congestion and an outmoded infrastructure; rising noise levels; problems of waste management; sprawl and its associated pattern of high car dependency and high infrastructure cost; a lack of open space; limited success in improving air and water quality; health problems;
- lack of professional capacity in local and regional government; lack of co-ordination among different government programmes, leading to duplication and policy conflicts; problems of horizontal and vertical co-operation; weak evaluation culture; resistance to the introduction of economic instruments for environmental policy; low voter turnout; neglect of local identity or culture to promote cohesion and vision.

Threats and Opportunities

If the strengths and weaknesses of cities and metropolitan regions represent structural factors which change slowly, the threats and opportunities represent dynamic variables which often provoke actors to respond.

The threats faced by urban areas include the risks of natural disasters (including flooding and drought associated with global climate change), industrial accidents, and terrorism. Political trends toward protectionism and resistance to immigration are threats too.

The opportunities, especially those provided by globalisation, include expanding markets, better, cheaper and faster information, public-private financing, and the diffusion of new technologies. More cities can trade directly rather than depend on a small number of gateway or transit centres. But cities are not just dependent upon the circulation of finance, labour and ideas; their strengths define their potential for endogenous development.

Strategies and Policies

The capacity of cities to adapt to change is itself an asset in a rapidly-changing world. In the future, more attention will be paid to identifying the factors that make urban communities more resilient. These include economic diversification, good governance including the number and density of social networks and community organisations, redundancy or a lack of bottlenecks in infrastructure, and an adaptable building stock.

When the cost of modernising and adding to the infrastructure endowments of Western cities is added to the infrastructure needs of cities in developing countries, it is clear that the global market for goods and services that sustain cities is an important part of world trade, and helps drive innovation. Globalisation helps enlarge this market, thereby stimulating innovations which can be transferred. This market includes the management of urban water systems, software for geographic information systems, architectural and planning consultancies, the sale of everything from parking meters to street cars, traffic lights, and power plants, advice on different aspects of urban management, and assistance with strategic planning for sustainable urbanisation. Indeed, it is not too much to say that the task of rebuilding cities to make them more sustainable represents a major share of infrastructure investment for the years to come.

Economic Development Based on Enhancing Competitiveness

One of the critical functions of metropolitan reviews is to identify such assets and to propose recommendations to enhance them. As Jane Jacobs wrote, "The basic idea is to use whatever commercial strengths and resources a locality already has, but that it has been neglecting, wasting or overlooking" (Jacobs, 1992, pp. 172). For a time, in coping with a decline in urban manufacturing and with innovation more generally, industrial policy supported declining sectors; welfare systems inhibited labour mobility; and harmful competition meant that cities attracted investment but were unable to anchor new firms into a local economic fabric. The lessons of policy failure have helped to shape the new political economy for territories. The goal is not to shift jobs from one region to another unless relocation will allow it to function in an area where there is a better "fit" with its territorial

capital but to lift overall output by developing the assets of all regions. Key issues involve intangible assets, particularly organised around specialisations, linkages between universities, research communities and the private sector, clustering, and stocks of social capital, as well as natural features, often associated with water or other environmental assets.

- In a globalising economy, not only firms but also territories increasingly find themselves in competition with each other. The qualities of places to locate business functions are compared within a global framework of references. Opening territories to a global economy has restored the idea of territories in continual incremental adjustment to external market forces, instead of the idea of territories as fixed physical structures.
- Local economies must constantly reinvent themselves through structural and microeconomic adjustments, and thus policies should enable each locality to respond quickly and effectively to problems in relation to the enhanced mobility of capital, management, professionals and skilled labour, and technology innovation. Regions are increasingly asked to create the “something in the air” that fosters firm growth. If a local response is inadequate or too slow to take full advantage of endogenous resources and competencies in the face of such new challenges, it will be by-passed, leaving declining sectors, communities and cities behind. The establishment of local systems that can develop and sustain flexible economic and social responses to challenges from global changes is a new key policy area (OECD, 2001c).

As the process of regeneration shows from Japan to Europe and North America, all cities have assets that are under-developed, and the potential to attract or create new assets. Many of these assets are “urban amenities”, a term referring to mixed public goods stretching from urban parks and recreational facilities (and even, access to nearby rural areas with high-quality amenities), to street-side cafés (an issue related to retail regulation and the rules affecting public space), ethnic and cultural festivals, and historic preservation. The market provides some of these amenities, but not all of them, and in particular, it cannot provide the parks, the management plans for historic districts, or the cityscapes shaped by streets which are the hallmark of great cities. The management and enhancement of urban amenities is linked to both competitiveness strategies, and to a multi-sectoral, space-based approach discussed in the following section.

Space-Based, Cross-Sectoral Development

The new agenda of spatial development is broad. Competitive positioning in a new global economic geography shapes strategic pre-occupations, particularly as regards major infrastructure investments and locations for new concentrations of business activities. It also highlights the importance of the cultural assets of a place to attract the skilled workers of the new knowledge industries and tourists. The need for environmental sustainability highlights both new conservation priorities and new ways of thinking about the flows of people, goods and waste products; the need for social cohesion leads to concerns for the quality and accessibility of particular resources, amenities and opportunities in the city and region. Housing remains the biggest single use of land, with impacts on health, safety, and the environment. As a result (OECD, 2001n, pp. 16):

- spatial development strategies must go beyond merely indicating where major material investments should go and what criteria should govern land-use regulations. In other words, they have to be more than merely an aggregation of considerations and policy principles collected together in a plan or document;
- this suggests that their key task now is to identify the critical relations among many agents which are likely to shape the future economic, social, political and environmental qualities of territory; and thus,
- spatial development strategies exert influence by framing ways of thinking about and valuing the qualities of a place and of translating plans into reality. This work in turn helps to mobilise the many actors inventing the futures of places by shaping their understanding and guiding their investments towards more sustainable outcomes.

The visionary and long-term view of the new territorial policy is best reflected in a long-term strategic plan. In addition to the critical function of promoting policy coherence and identifying obstacles to implementation, its main purpose is to send signals concerning government policy priorities and desired outcomes to the private sector, which after all is responsible for most of the investment in property and housing, and increasingly, infrastructure provision. The role of planning is not to dictate what goes where; rather, when linked to expenditure on infrastructure and to policies and programmes for SMEs, housing, education, health and the like, flexible spatial planning strategies can help to leverage private investment and civic involvement. These challenges however are difficult, given the inherited

professional specialisations in the public and private sectors that deliver space-based services and goods, the frequent lack of multi-year and multi-sectoral budget for major projects, and the problems of co-ordinating private and public finance with different time horizons.

National Policy Frameworks

Since the first wave of industrial restructuring in the 1970s, national urban policies have failed to keep pace with urban change, but economic growth on its own is not enough to alleviate all the social and environmental problems found in cities. National and state or provincial policies can even be counter-productive; examples include: privatisation that makes it more difficult for local or regional governments to organise transportation systems and manage environmental assets; tax systems that encourage people to live in owner-occupied houses rather than to live in rental apartments, with the negative consequence of discouraging investment in or renovation of private rental housing stock; environmental policies that impose priorities at the local level which may not correspond to local problems; public expenditure laws which make it difficult for communities to increase their funding for education; or very low fuel taxes which encourage dispersion. The rate of change itself gives rise to feelings of insecurity as people feel themselves caught up in transformations that make the prospects of the places where they live and work increasingly uncertain. Security concerns which raise questions about the future of dense urban centres, and about surveillance measures, indicate a potentially greater role for the state in the future. But top-down strategies appear unable to generate a reassuring vision of the future on which an overall development strategy could be based.

Some cities take initiatives even in the absence of national policy leadership or national framework policies; others – perhaps most – do not. When the obstacles to initiative and co-operation at the local level appear entrenched, does it take a crisis to bring change? The widespread phenomenon of parochialism expresses an overly cautious assessment of what is possible locally, and an exaggerated assessment of how distinctive and difficult local problems are. Other obstacles include a lack of co-operation across jurisdictions; inadequate information and media; sectoral programming and budgeting as well as human resource policies which depress incentives for cross-sectoral collaboration in government departments; and a mis-match between roles and responsibilities at different levels of government. Capacity-building is a priority, especially given the scope of cities for international representation and collaboration.

A key issue concerns the level of analysis and the level of intervention. Capacity-building measures are frequently needed at municipal and regional

levels if governments at these levels are to design and implement strategic plans, build partnerships, negotiate public-private financing arrangements for infrastructure, co-operate on a wider range of initiatives horizontally, articulate urban issues more forcefully in national and international arenas, improve public participation, and use indicators.

National urban policies take three forms: frameworks covering national objectives for social cohesion, growth and sustainability, and horizontal and vertical co-operation; modes of consultation and co-ordination for cross-sectoral integration at any level of government; and area-based initiatives. Many OECD countries have re-assessed national urban policies in the 1990s (UK, France, Germany, Japan, Netherlands, Sweden, among others), frequently leading to innovative forms of intervention with a focus on contractual relationships and specified outcomes, monitoring systems and an *ex-post* evaluation of performances, development agencies, and measures to enhance the participation of civil society (OECD, 2001j, pp. 275-290). The drivers of change include the reform of the public sector, to improve efficiency, transparency and accountability, privatisation, and decentralisation. The impact of these reforms on the ability of each level of government to address urban problems remains to be assessed: many sectoral policies will continue to have at least as much impact on cities as any explicit urban policy.

To summarise, the new territorial development policy is based on three principles: endogenous development and efforts to attract investment based on specific local assets, sustainable development with an emphasis on space-based, cross-sectoral integration, and good governance, which refers to the conditions which will enable policies to be designed, implemented and monitored. Good governance needs to take account of:

- obstacles to policy coherence at the national and regional levels;
- measures of accountability and control;
- the critical relations among agents likely to shape the future economic, social and environmental qualities of a city;
- capacity-building, to assure that each level of government has the professional staff it needs, and an adequate planning system;
- incentives to promote innovation and creativity in the public sector; the fiscal condition of cities and financial equalisation;

- and effective forms of horizontal collaboration across jurisdictional lines within a metropolitan area;
- The Metropolitan Governance Principles (OECD, 2002a) are a basic point of reference, and should be widely diffused.

Cities are key components in a territorial development strategy. A well-rounded national economic strategy cannot ignore the spatial structure of the economy, or the qualities and characteristics of cities that affect economic performance, social cohesion and environmental conditions. Whether a city is new or old, or growing slowly or rapidly, matters less than whether local and national governments are prepared to develop policies and guide investments appropriate to the needs and potential of cities. But national urban policies in the past have been reactive and remedial, not pro-active and dynamic. Not only must urban issues be given greater visibility and higher priority in national policy; new policies may be needed at national, regional and local levels, and governments at all levels must re-examine their roles and responsibilities.

Chapter 2
Introduction

Melbourne is the second-largest metropolitan region in Australia, and that country's leading container port and centre for research and higher education. Recognised in 1990 as the world's most liveable city, Melbourne nonetheless cannot be complacent about the future. The economic and social changes of the 1990s have had an impact on Melbourne, creating opportunities that can be pursued but also giving rise to problems of disparities and questions about sustainable development.

Melbourne – A Prosperous Metropolitan City Region...

The population of Melbourne, around 3.5 million people in 2001, represents about 73 per cent of the population in the State of Victoria and about 18 per cent of Australia. Melbourne is the economic driving force for Victoria, which itself is characterised by a GDP per head of about AUD 33 300 in 2000, continuously above average growth rates of GDP, and low unemployment rates over the last ten years. Melbourne is one of Australia's largest port and manufacturing centres. Due to its geographical location on the South East Coast of Australia, it is seen as ideal production and strategic business base from which firms can serve large international markets throughout the Asian Pacific region. Melbourne offers an extensive supply of primary production factors and of cheap industrial land as well as excellent infrastructure. Firms find there a well-educated workforce and high-quality universities and research institutions, especially in the field of bio-medical and health research. Melbourne is Australia's major intellectual centre. Melbourne's competitiveness is related to its high degree of liveability; it is characterised by an open, multicultural society – the effect of continuous and increasing in-migration from abroad as well as from other states within Australia. It is led by a stable State Government with roles and responsibilities clearly defined and with a decision process based on a high degree of public consultation. Melbourne has a long tradition of excellence in urban design, quality housing, and the provision of major cultural and sporting events.

Melbourne appears as a mature and stable urban entity, the result of generations of good management making best use of the city's capacity to absorb immigrants, to invest in infrastructure, and to build on its economic strengths in manufacturing and transport. From this perspective, few changes may seem needed or desirable; fine-tuning, not strategic initiatives, could be considered sufficient. If things are so good now, one may ask, why do anything different?

This question however ignores two critical issues: *a)* whether Melbourne is doing enough to exploit its under-developed assets and reach a higher level of development and; *b)* whether Melbourne is adjusting rapidly enough to the challenges of sustainability.

... But with Problems Yet to Solve

A strong rate of growth, locally and nationally, will not by itself reduce social disparities or environmental risks, or renew and enrich the knowledge base on which an economy rests. To reach its optimal path of development, Melbourne needs to improve its levels of entrepreneurship, regional clustering, and education-business relationships, the innovation activity of firms, and their internationalisation. These issues take on greater significance when put in the context of a small domestic market as well as the growing importance of Sydney as a centre for headquarter activities. Secondly, similar to other metropolitan areas, Melbourne is characterised by social and economic disparities. A post-war tradition of suburban expansion combined with structural economic change and rising demands of logistics, and environmental problems due to increased road traffic, are raising questions about how Melbourne can provide a high quality of life to all its people in the future. Thirdly, Port Phillip Bay, an area containing some protected RAMSAR¹ wetlands, is not only at the heart of the metropolitan region and one of its best assets; it is also home of the nation's largest container port, which plays a critical role in the economic life of both Melbourne and Victoria. In Melbourne today, as in some great port cities in the past (Hamburg, London, New York, San Francisco), the efficient operation and growth of the port raises significant questions about the transport infrastructure, environmental policy and land use pattern of the region as a whole. Changes related to the port function can become the key organising principle for other parts of a metropolitan plan. Fourthly, problems specific to regional Melbourne arise from the low connectivity of fringe and rural areas to transportation and ICT networks as well as to higher education. A mismatch in the housing market, especially for rental property, and a growing problem of negative housing equity, have led to a lack of affordable housing in certain areas and affect labour mobility

adversely. Finally, there is a need to strengthen co-operation between state government on the one side and local governments on the other.

These challenges and their solutions are inter-connected, which means that to respond, policies require to be pro-active and flexible. A spatial framework for cross-sectoral integration can help to increase the value of many specific local assets related to the natural and built environment, infrastructure and the quality of place. It works in tandem with a policy to reduce the need for subsidies by exploiting under-developed assets, so as to enhance endogenous development and attract investment.

The Way Forward

Sustainable development, as a holistic concept and paradigm, provides a way to make cross-sectoral connections. It shifts the focus from growth to development. Because conventional statistics such as per capita income and output are inadequate to capture all the facets of sustainability, room must be made for qualitative as well as quantitative assessments. In any case, the short term is simply not long enough to allow us to see the consequences of decisions and investments. Sustainable development does not mean that growth is reduced; on the contrary, growth which is built on and enhances the city-region's assets will, by definition, become more sustainable over electoral and economic cycles.

In the past, no regional development strategy had sustainability as its explicit objective, integrating economic, social and environmental issues. This objective represents the major policy innovation of the 1990s. In contrast, many of the other policy trends of recent years, such as privatisation, deregulation, welfare reform, transparency in subsidies, and free trade, have their origins in earlier periods, but have been taken further. The difference can be seen particularly in matters regarding infrastructure, housing, land use planning and transport, which are no longer exclusively sectoral and supply-side in nature, but are considered increasingly as aspects of a region defining – and lifting – its competitiveness and liveability.

What was utopian ten years ago is now a matter of practical policy implementation. Remaining with the status quo is not an option: doing nothing different translates into lost opportunities, higher transaction costs, and higher costs to cope with social distress and environmental problems. The Melbourne region is therefore at a point of transition. From one perspective, its economic and social structure is mature; but from the perspective of sustainability as a new paradigm for development, Melbourne is only in the early, initial phase. Considerable innovation and experimentation may be necessary in every city-region, which means that

the design, implementation and evaluation of policies to manage urban growth, widen transit options, and foster entrepreneurship and clustering, will put a greater emphasis on organisational learning, on capacity-building and knowledge-based practice in the public sector, on public understanding and participation, on innovation for sustainability, stronger ties on the part of the private sector to the city-region, and on the factors that enhance the adaptability, resiliency and creativity of communities.

Aims and Procedure of the Melbourne Review

The aim of the OECD Review is to analyse how Melbourne can improve further on its competitiveness by at the same time reducing the negative social and environmental consequences of urban economic and population growth. What are the region's main assets? Problems? How can it benefit from the so-called economic and social drivers of change, factors that are national or global in scope? How can anticipated future growth be accommodated? How can sustainability criteria be incorporated into decision-making and evaluation? This range of questions immediately leads to consideration about the type of public policy – if any – which should be introduced or reformed in order to achieve these objectives, considering probable impacts of specific policies as well as barriers and opportunities with regard to their implementation.

The report thereby not only aims at giving some general policy recommendations on the basis of descriptive and analytical research; it is also meant as contribution to the Metropolitan Strategy for Melbourne which is being developed by the Department of Infrastructure (DOI) of the Victorian State Government (Box 2.1). This strategic plan is an exogenous variable, that is to say, an external factor that may make a difference. The strategy can help position Melbourne in a competitive world league of cities, showing the way forward. But its credibility will be measured in part by the commitment of public and private resources to deliver specific projects. Sound fiscal management – which is also a factor in attracting investment – calls for flexibility in government expenditure, but infrastructure often requires a multi-year investment plan. Because some of the features of the Strategy relate to land use, economic development, the well-being of communities and economic opportunity call for such projects, the Strategy raises issues about how the benefits of a long-term strategy can be demonstrated. On the basis of the information available, however, it is not possible to know how much greater investment in Victoria could be if the Strategy is fully funded and implemented. Theory and experience tell us however that industries and businesses with potential for growth and clustering have an incentive to locate in areas which fit them, with room to

expand, access to research, the best communications, and a productive workforce. This report discusses how the location of development in the future can have a positive impact on economic, social and environmental trends in Melbourne and in the regional centres around it, and how the Strategic Plan can help guide the market, which on its own cannot provide the hard and soft infrastructures that Melbourne needs, nor reconcile the economic, social and environmental aspects of development. But the Strategy itself must be on a scale to cope with the scale of the Melbourne region helping the State Government develop and implement an all-of-government approach.

A polycentric, networked city-region would enlarge the Melbourne functional area and labour market, and create a framework for better management of precious environmental assets. The spatial dimension of economic and social development will necessarily be given emphasis in this report, in accordance with the idea that the optimal size of Melbourne as a city region depends on how economic activity can be reconciled with social cohesion and environmental quality. Additionally, the report will assess the extent to which the OECD Guidelines for Metropolitan Governance are being applied, and how some other, comparable cities – Boston/Cambridge (US), Manchester (UK) and Lille (France) are tackling similar challenges.

Box 2.1. Metropolitan Strategy

1. Background

Development of the Metropolitan Strategy was commissioned in December 1999. Public consultation started in October 2000 and has included two rounds of public forums and an extensive series of discussions with local governments and special interest groups.

Vision

The Strategy proposes a balanced range of measures designed to simultaneously support economic development, reduce Melbourne's "ecological footprint", address inequality and develop more cohesive communities.

Area covered by the Metropolitan Strategy

The Metropolitan Strategy is intended to provide a 30-year plan to manage growth and change across metropolitan Melbourne. It will also emphasise the city's links with regional Victoria, to provide maximum benefit to the whole State.

The Strategy will focus primarily on the Melbourne urban area and the nearby non-urban areas. However it also deals more broadly with the wider region in which economic development is increasingly linked to Melbourne in terms of commuting, business and recreation. There are important issues raised that impact on the regional centres of Geelong, Ballarat, Bendigo, and the Latrobe Valley and the corridors between Melbourne and these centres. In order to extend the principles of the Metropolitan Strategy to those areas, it is envisaged that the Strategy will need to be followed up with planning and economic strategies for Bendigo, Ballarat and Geelong.

Scope

The Strategy will emphasise planning for land use and development, transport and other major infrastructure to support the development of communities within the region. Many but not all of these issues are the responsibility of the Department of Infrastructure. The strategy will guide whole of Government decision making. It will provide a vital context for other sectoral plans, which will be developed or further refined.

2. Main thrusts

The Strategy comprises nine key directions containing policies and initiatives. There are also a number of preliminary sections setting out the purpose of the Strategy, explaining the key directions and defining the strategic framework. The nine key directions are:

1. A more compact city

The Metropolitan Strategy will seek to focus housing and employment growth around key activity centres and other significant redevelopment sites that have good public transport access and other services. Increasing the share of growth going to these areas will take best advantage of existing and proposed infrastructure and respond to changing housing preferences.

The Strategy proposes a network of activity centres linked by an expanded public transport network. Development of the majority of centres will be based on mixed use including retail, commercial, entertainment, and community services. Significantly, the Strategy will make a large number of activity centres the focus of a range of housing forms and densities and will emphasise the need for new planning controls to achieve high quality urban design outcomes.

The Strategy will protect the valued character of the established parts of the city, including preservation of cultural heritage, historic buildings, green spaces and suburban streetscapes through the application of planning measures.

2. Better management of metropolitan growth

Continued provision for fringe growth is essential in maintaining housing affordability. The Strategy will reaffirm and strengthen the policy of focussing fringe development in growth areas based around transport corridors that can be well served by road and especially public transport infrastructure. The establishment of an urban growth boundary to define the intended outward extent of Melbourne is proposed.

In each of the designated growth areas, it is proposed to prepare an indicative 10 to 15 year development program to identify the areas in which development is expected to meet projected housing demand (the proposed approach would also include major infill/redevelopment sites).

Action will also be taken to protect the 12 “green wedges” between the growth areas to preserve Melbourne’s character and ensure there is adequate land to support non-urban uses. Significant agricultural areas outside the urban growth boundary will be protected. Statutory and legislative protection will be provided for green wedges to prevent uncontrolled growth and inappropriate development.

3. Networks with the regional cities

An important element is a focus on the growing linkages between Melbourne and the major regional cities. The Strategy therefore talks in terms of a network of cities linked by improved road, rail (and telecommunications) infrastructure, and emphasises the necessity to manage the development pressures occurring in key towns along the regional transport corridors.

The concept of networked cities is intended to take advantage of improved transport and communication links between regional Victoria and metropolitan Melbourne’s economy and facilities. Providing a wider choice of places in which business can choose to set up and individuals can choose to live and find a job will help Victoria compete effectively in national and international markets. It will also help share the benefits of growth across the State.

The Strategy emphasises the growing economic links between Melbourne and the rest of regional and rural Victoria. It proposes the need to work with local governments of the major regional cities and their surrounding regions to plan their development, to maximise benefits from such growth.

In the area between Melbourne and the regional cities, the Strategy proposes measures to better manage conflicts between urban development and primary production, environmental values and to retain community identity.

4. A more prosperous city

The Strategy will support development of specialised centres, such as Melbourne Airport, universities and the bio-technical research, education and industry precincts.

The Melbourne Central Activities District will remain the key location for high order commercial development, a vibrant and diverse retail and entertainment core and for uses serving the State or nation.

Action will be taken to protect major ports and airports from encroachment and to ensure more effective handling of freight to retain Melbourne's status as a key hub for freight. Other measures will be taken to encourage better communications and early investment in broadband capacity in developing areas to reduce inequality of access.

Action will be taken to protect major sources of raw materials, waste disposal, energy supply and other services needed by industry, while avoiding conflicts with urban development. Areas for hazardous and heavy industry will be maintained where required, with appropriate buffer zones.

5. A great place to be

The pattern of urban development proposed (including focussing fringe growth into well defined growth areas) will support retention of areas of open land close to urban development.

Excellence in urban design will be sought to ensure that future urban environments are of better quality, more functional and more sustainable.

Areas of special resource, environmental and landscape significance will be protected. Improved environmental and other standards for locating urban and rural living development will protect water catchments, areas with important indigenous vegetation, wetlands and their drainage basins, areas (and buffer zones) of mineral resource extraction and/or areas with potential for high value agricultural production.

A number of new metropolitan regional parks are proposed. This will rectify problems with the current inequitable distribution of major parks.

6. A fairer city

Two key themes of the Strategy are the need to plan for a more equitable distribution of social and cultural infrastructure and to better co-ordinate and time the delivery of new services in development areas.

There is a substantial emphasis on increasing housing choice and delivering affordable living environments through higher density

developments close to activity centres, by raising the average density for new developments in growth areas and by improving the design and layout of development.

7. A greener city

There will be a focus on reducing the “ecological footprint” of the city and the Government leading by example in environmental management. There is a strong theme about sustainable use of water resources, including the recycling of effluent for non-potable uses. The Strategy also highlights the protection of coastal and other natural environments, biodiversity, air quality, as well as reducing greenhouse gas emissions, waste production and impacts of stormwater on the bays.

Despite a growing population Melbourne can improve the usage of resources. This will mean, for example, it doesn't have to draw on additional water resources, can improve recycling to moderate the volume of waste produced and can preserve significant habitats from damage due to overuse.

8. Better transport links

The Government has set a target of achieving 20 per cent of motorised trips by public transport by 2020 (up from 9 per cent). Increasing the public transport mode share, together with increasing walking and cycling and reducing trip numbers and length through appropriate land use planning, are key elements in achieving a more sustainable transport system. Increasing the availability of public transport services, especially in currently poorly serviced outer suburbs, is also important in addressing the needs of those households which do not have access to a car or who currently need to spend substantial sums on second or even third cars.

This Strategy sets the framework for the transport planning and infrastructure investment for the region needed to achieve these goals. It will be complemented by a detailed public transport plan (which will set out the mix of measures proposed to achieve the 20 per cent mode split target) and by a Metropolitan Road Management Plan.

- The Metropolitan Strategy will recognise the important ongoing role of the car and road investment which serves on-road public transport as well as freight and private car use. It seeks to address shortcomings and provide greater choice through a balanced approach that includes:
- extension of public transport infrastructure and services, especially in the middle and outer metropolitan areas;
- improvements in aspects of the public transport system of particular concern to users (travel time, reliability, ease of use, amenity and safety);

- increased emphasis on management of the road system and parking policies to complement and support public transport;
- provision of safe and continuous pedestrian and cycling routes;
- travel demand management programs to change individual travel behaviour;
- requiring forms of urban development which support public transport provision and encourage walking and cycling.

9. Better planning decisions, careful management

The Strategy will consider measures to improve the way the planning system is currently managed and to make it more timely and accountable. Delays in consideration of applications at the local government level need to be addressed and improvements made to the operation of the appeals system to ensure a timely and dispassionate resolution of disputes.

It is proposed there will be regular reporting on implementation of the Strategy and a five-yearly review of the major policy settings. Working relationships with local councils and across government will be addressed to ensure the Strategy can be implemented effectively.

Source : Department of Infrastructure, Division of Strategic Planning.

NOTE

- 1 . RAMSAR 150 named after a conference in Ramsar.

Chapter 3
Melbourne in the Australian and International Context

Demographic Context and Trends

Australia (Figure 3.1.) is a huge country with a population that is concentrated along the temperate coasts. In June 2000, the population of Australia was 19.6 million (ABS). Only five Australian cities have populations exceeding one million: Sydney (4.0 million); Melbourne

Figure 3.1. Australia



Source: ACT (2002).

(3.4 million); Brisbane (1.4 million); Perth (1.3 million) and Adelaide (1.1 million). About 85 per cent of the population is concentrated in urban areas, a rate of urbanisation that is roughly 8 percentage points higher than the average OECD country.

The State of Victoria is situated in the temperate south-eastern corner of the Australian continent. Victoria is the smallest Australian state with an area of 230 000 square kilometres (3% of Australia's total area) but is second to New South Wales in terms of population with 4.8 million (about one quarter of Australia's total population). In 2001 Victoria's Gross State Product (GSP) accounted for about 25 per cent of Australian GDP.

Population Growth and Forecasts 1996-2021

The population of metropolitan Melbourne is projected to rise from 3 284 007 at the time of the 1996 Census to 3 934 878 in 2021, an increase of 650 871 persons (+ 19.8 per cent). Despite this *overall increase* in population, however, the *annual rate* of population growth in metropolitan Melbourne is expected to decline from 1 per cent for the years between 1996 and 2001 to an annual rate of 0.5 per cent between 2001 and 2021, assuming constant flows of overseas, interstate and within state migration. Nonetheless, between 1996 and 2021, metropolitan Melbourne is expected to grow at a faster rate than regional Victoria (an average of 0.7 per cent per annum compared to 0.4 per cent for the State). In the last two decades the growth rate of metropolitan Melbourne has been significantly higher than in Adelaide and Hobart, comparable to Sydney and Canberra, and substantially lower than Brisbane, Perth and Darwin.

Age Structure

The population of metropolitan Melbourne, as in other OECD urban regions, is ageing. The number of people aged in their 50's and 60's (the so called "baby boomers" born between 1945 and the late 1960's) will increase by an extra 536 909 persons by 2021. There will also be significant increases in the numbers of people over 60, although the major impact of ageing will begin when the large numbers of people born in the 1950s and 1960s reach old age, that is, after 2030. Life expectancy has increased greatly and this will contribute to the older average age of the population of Victoria.

The decline in fertility rates in Victoria will result in a significant drop in the numbers of children and adolescents. By 2021, the number of people aged less than 18 years is projected to be 124 754 fewer than in 1996. As Victoria's population ages, there will be fewer people of child-bearing age and this will amplify the effect of lower fertility. Not only will women be

having fewer children but there will be a smaller proportion of women of child-bearing age within the population. This will lead to a decline in the number of babies born in Victoria.

Household Size

There has been a decline in the average size of households in Melbourne but an increase in the number of households. Factors influencing this trend include the following:

- The baby boomer generation is beginning to reach the age where children have left home to form their own households.
- Older age groups are forming single person households after the death of a partner.
- Young people often choose to live in a smaller household, alone or with a partner for much longer.
- Greater social acceptance of diverse family and household arrangements and households dissolve and reform more often than in the past.
- The decision to have children later in life is leading to fewer births.

Although the population of metropolitan Melbourne will grow in absolute terms, the expected slowdown in the rate of population growth in metropolitan Melbourne could have implications for economic growth, the significance of immigration, environmental systems and public policy. However, the precise implications of demographic change over this period are difficult to evaluate because a number of outcomes are difficult to ascertain. For example:

- On the one hand, lower rates of population growth could lead to lower rates of economic growth. On the other, the projected increase in the number of households could counteract this by sustaining the demand for housing.
- From an environmental standpoint a lower rate of population growth may be seen as having benefits in terms of resource use and waste outputs. However the relationship between population numbers and environmental impact is not always linear. A stable population still has the potential to place increasing demands upon the environment in situations of increasing per capita consumption.

- Because Melbourne will continue to experience below-replacement fertility in the future as well as higher absolute mortality levels as the baby boomer cohort ages by mid XXI century, migration, rather than natural increase will become more significant in Victoria's population increase. However, immigration (both international and interstate) cannot be accurately predicted as it depends on the attractiveness of other Australian States and economic conditions. Recent changes to Victoria's net interstate migration levels have been somewhat unexpected. In 2001 the State recorded its first net gain for several decades but it is difficult to forecast if this trend will be sustained and for how long.

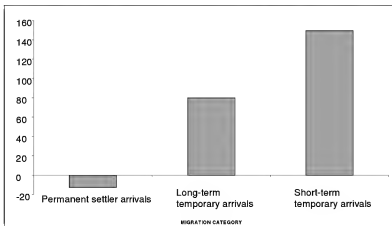
Migration (International and Interstate) and Mobility

Australia is a country in which immigration is historically of particular significance. In recent years, the Australian population has grown at a rate of about 1.2 per cent annually, in part due to significant inflows of immigrants (ABS, 2001a). Between 1995 and 1998, net overseas migration accounted for roughly 40 per cent of population growth. Overall in 1998, foreign-born individuals accounted for 23 per cent of the population resident in Australia, the second highest share among OECD countries for which data are available (after Luxembourg).

The traditional form of permanent migration to Australia from overseas is, however, no longer as dominant as in the past (Figure 3.2). Instead, there are growing numbers of people coming to Australia on a temporary basis, either short-term (less than 12 months) or long term (for periods of 12 months or more). This shift to temporary migration patterns is influenced by the globalisation of the world economy which has created a labour market which is increasingly global. Temporary migrants come to Australia for purposes of business, study, tourism or working holidays, while Australians continue to travel to other parts of the world for the same reasons.

In 2001, Victoria attracted a net 27 429 overseas migrants; it enjoyed a positive net interstate balance of 7831. Population growth is, of course, heavily dependent upon economic conditions. For example, in the early 1990s during a period of cyclical and structural adjustment, there was a sharp increase in out-migration from Victoria. At that time about one quarter of a million Victorians headed north to the "sun belt" in Queensland seeking better work opportunities or to retire. The recent positive interstate migration is considered to reflect the current strength of Victoria's economy, especially in Melbourne, moderate real estate prices relative to Sydney, and the city's image as a good place to live.

Figure 3.2. Change in Arrivals to Australia by Migration Category 1986/87-1995/96



Source: *Victoria in Future, Melbourne in Future*, Page 10, DOI.

Victoria is a multi cultural society. In August 1996 one in four of Victoria's population was born overseas and another 21 per cent were born in Australia but had at least one parent born overseas. While English is the main language spoken, over 120 other languages are also spoken. Changes in the composition of the Victorian community reflect changing patterns of immigration to Australia. Prior to 1981, Southern European countries provided 37 per cent of the overseas born, compared with only 7 per cent of those arriving since 1981. The United Kingdom and Ireland provided 28 per cent of the overseas born who arrived prior to 1981 and only 12 per cent of those arriving since then. In contrast, arrivals from Asia have increased markedly since 1981. One in two of the overseas born arriving since 1981 has come from Asia, the majority from Southeast Asian countries.

The factors which underpin global and national trends of population movement are not necessarily the same as those influencing movement at the metropolitan level. Although overseas or interstate movement is likely to be work related, motivation at the metropolitan level, although work related is also linked to lifestyle choices, housing markets, levels of individual mobility (relating to wealth) and job opportunities linked to the performance and perception of local economies. Population movement within the urban area tends to be most strongly related to life stages of an individual. These personal life events are likely to result in new household formation as

different housing needs arise and responses to life events are made. At the metropolitan level, such population mobility and locational choice have a direct and important impact on the distribution of population and how this changes over time.

Spatial Aspects of Demographic Change in the Metropolitan Region of Melbourne

Metropolitan Melbourne is located on the coast of Port Philip Bay. The urban region can be roughly divided into three concentric areas – the CBD, the older inner and middle suburbs and the outer fringe municipalities (Figure 3.3).

Located around Melbourne at a distance of between 70 to 170 km lie a number of regional cities – Geelong, Ballarat, Bendigo, Shepparton, Wangaratta and the cities of the Latrobe Valley. These cities have populations varying from 40 000 to 180 000 and are connected by road and rail to Metropolitan Melbourne. Because of its isolation from other urban regions in Australia, Melbourne does not have the complexity of relationships with other cities characteristic of European systems. Given its flat topography and water system, there is a relative ease of access across the whole of the metropolitan area and its region.

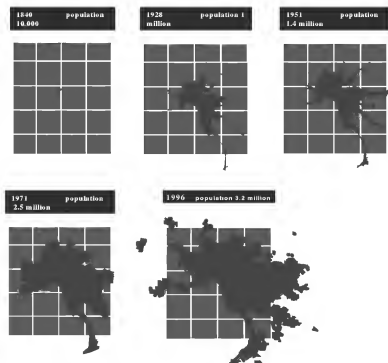
Figure 3.3. Melbourne Region



Source: ACT, (2002).

During the past 160 years, Melbourne has grown consistently in terms of both population and geographic size (Figure 3.4). In 1840, Melbourne's population was approximately 10 000 and most people lived in the core of the city. Melbourne's expansion in the second half of the 19th and the early part of the 20th century was fuelled by the industrialisation of Australia's cities which marked a shift from a predominantly primary producing economy exporting minerals, foodstuffs and agricultural produce to an industrialised economy dominated by manufacturing activity in Melbourne and Sydney. Melbourne has no natural boundaries other than the range of Dandenong Mountains located to the northeast. The combination of local skilled labour and available infrastructure and proximity to the Port of Melbourne, made Melbourne an attractive place for further manufacturing. The abundant supply of land allowed the city to expand outwards.

Figure 3.4. Melbourne's Development from 1840 to 1991



Source: *Victoria in Future, Melbourne in Future*, Page 6, DOI.

The built up area of the Melbourne region now covers an area 50 per cent larger than urban Paris, but has only slightly less than 50 per cent of its population (Figure 3.5).

Figure 3.5. Comparison between Melbourne and Paris

	Paris	Melbourne
Area (km ²)	1 155	1 791
Population (millions)	6.4	3.1
Density (people per km ²)	5 530	1 731

Source: *Victoria in Future, Melbourne in Future*, Page 9, DOL.

Central City Growth

Some of the most important spatial-demographic impacts of recent economic change have affected central city areas of Melbourne as has been the case in other cities of OECD countries. In Melbourne, however, long term population loss experienced in the city centre in the 1990s has now been replaced by higher economic performance and population growth. New residents are often young, affluent and heavy consumers of urban services. Public and private investments, often in the form of partnerships, have been instrumental in achieving the revitalisation of the inner city.

The population of the City of Melbourne (the central city municipality) is projected to grow from 39 716 at the time of the 1996 census, to 63 447 in 2021, an absolute increase of 23 732 persons (59.7 per cent). The average annual growth rate of the City between 1999 and 2021 is projected to be 1.7 per cent. This compares to metropolitan Melbourne's overall growth rate during the same period of 0.7 per cent.

The attraction of the city centre of Melbourne and inner suburbs as places to live is expected to continue to increase as central city jobs demand a highly skilled and educated workforce. Many of these workers will have high incomes, but will be constrained by the demands of long working hours. Living in the inner city can be afforded by this group of well paid people and provides advantages of living close to work and a range of entertainment, restaurants and cultural facilities.

The redevelopment of sites in Melbourne's inner city region has been a significant factor in the population growth of the inner city and this is likely to continue in the future. Existing areas of major inner redevelopment include: Southbank, Beacon Cove, St. Kilda Road and the Central Business District (CBD). The development of the Docklands is expected to yield more than 6 000 new dwellings over the next 15-20 years and there appears

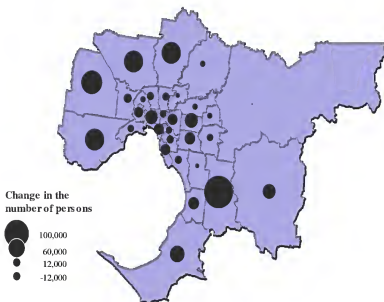
to be an ongoing demand for such inner city housing although it is highly priced.

From a social and economic standpoint, the regeneration of inner city areas in Melbourne has created a range of business and social opportunities. It has also meant the reuse or redevelopment of buildings and the revitalisation of larger sites such as Docklands and Southbank. Nevertheless, economic outcomes are not always positive in social or environmental terms. The increasing cost of housing in inner areas is one example of an outcome which has negatively affected certain sectors of the community (for example, through the loss of affordable housing and boarding house accommodation). Other external costs such as increasing traffic congestion are experienced by all categories of the population and may compromise the liveability of some inner areas. Increasing demands on infrastructure and services may also arise from a growing population. The redevelopment of the inner region of Melbourne has created an environment of rapid urban change. The land use economics and investment patterns associated with this change can give rise to increased volatility in land markets. Furthermore the mix of functions provided by the city centre – commercial, touristic, entertainment – may conflict with the interests of some residents. The dilemma of reconciling competitiveness and liveability and the interests of visitors and workers with those of residents is an issue in all major city centres (OECD, 2001d).

Inner and Middle Suburbs

All but one of the local government areas in Melbourne (Yarra Ranges) are expected to experience population growth between 1999 and 2021 (Figure 3.6.). This is in contrast to earlier periods when some inner suburbs and suburbs with ageing populations experienced population decline. In the post war period, as development expanded outward, many of the inner suburbs offered cheap accommodation and good access to the resources of the central city and public transport. Then, between 1981 and 1996 many of the inner, middle and even some outer suburbs experienced population loss which was most notable in the areas that were developed in the 1960s and 1970s. Today the function of many suburban areas of Melbourne is diversifying. Suburbs built in the post war period are no longer predominantly for traditional family groups and the population characteristics of many areas are becoming more diverse. Suburban locations have also become more important for emerging industry sectors such as research and development, high tech manufacturing, computer software and biotechnology. Other economic functions such as offices, shopping centres and entertainment venues have also become important sources of employment and activity for suburban areas.

Figure 3.6. Projected Population Growth, Melbourne Region, 1996-2021



Source: *Victoria in Future, Melbourne in Future*, Page 12, DOI.

The residential landscape is also changing. In suburbs such as Maribyrnong, former industrial sites are being converted to residential use. As a result, the rates of population growth for the City of Maribyrnong are expected to be very high with a projected average annual growth rate between 1999 and 2001 of 0.8 per cent (in absolute terms, an increase of 11 947 persons).

In the wealthier eastern suburbs, residential development is in high demand. However there is a lack of large redevelopment sites such as those found in Maribyrnong. With a high level of demand and constraints to outward eastward expansion created by the Dandenong Ranges, smaller scale redevelopment and increased density developments are expected for many eastern suburban areas. It is hoped that the trend towards diversification of suburban areas of Melbourne will enable revitalisation of a number of commercial and residential areas. In addition, the Metropolitan Strategy which is being developed by DOI aims to encourage “Activity Centres” located on strategic public transport routes with a view to reducing demand for travel as suburban regions become able to supply workplace,

residential space, recreation space and shopping space all within a reasonable radius. Home based businesses may also increase in these suburban locations.

Planning and managing change is giving rise to political debate in Melbourne as residents of low density suburban areas are often averse to the introduction of higher density housing developments or commercial enterprises which may change the character of the neighbourhood. Determining which mix of uses works best or what level of redevelopment is desirable is difficult from the planning perspective. Planners may have to deal with increases in daytime populations and traffic levels, or increasing demand for infrastructure and services. Policies and approaches to suburban planning will have to be adapted to meet the needs of the new suburban activities. Community responses to change may either facilitate or act as a barrier to change. In this respect, a major task of local authorities and planners in the years ahead will be to work with the Victorian State Government in blending local objectives and plans (embodied, for example, in the Municipal Strategic Statements – MSS) with the overall Metropolitan Strategy.

Growth on the Urban Fringe

In the first half of the 20th century, Melbourne's growth occurred predominantly along the railway lines which, like spokes of a wheel centred on the inner city hub, spanned outward towards regional Victorian cities and beyond. This pattern of development, based largely on public transport (tramways and railways), was maintained until the introduction of the private car. Since the 1950s, the mix of robust economic expansion and population growth, along with relatively high incomes, job security and car ownership, led to high levels of new home ownership. New residential developments sprang up on the urban fringe and in the spaces (known as green wedges) between the railway lines. Unlike the inner suburbs where infrastructures were installed in advance of development, housing developments in the outer suburbs preceded basic local infrastructures such as roads and sewage which were often installed only several years after the construction of individual family homes. Between 1981 and 1999 metropolitan Melbourne's population grew by 610 900 (21.8%) to 3 417 200. Rapid suburbanisation continued into the 1990s, especially in the southeastern, western and northern fringes of Melbourne, reflecting the strong economic conditions and the availability of plentiful cheap land. The majority of these increases have been channelled into specific corridors.

In the years ahead population growth will be highest in the fringe suburbs of Melbourne. Major areas for development over the next 25 years

are likely to be in the outer municipalities of Casey, Melton, Wyndham, Whittlesea and Hume. Over the period 1999-2021 the highest average annual growth rates are projected to occur in Melton (4.0%). Areas to the east and north east of Melbourne are not expected to experience rapid development due to planning restrictions and environmental constraints.

Despite strong overall population growth in various fringe areas of Melbourne, the *rates of growth* are likely to be lower over the next 25 years than they have been over the past 25 years. A number of factors influence the demand for fringe housing. Redevelopment opportunities which are emerging in existing suburbs and on former industrial (brownfield) sites have provided a source of residential development other than the outer fringe areas of Melbourne. This trend to urban consolidation is likely to somewhat dampen demand for urban fringe living. There have also been changes in recent decades to the way in which infrastructure and services for new fringe development are delivered. Greater levels of private investment in infrastructure and the more common use of user-pays systems through the 1990s has meant that residential development in fringe areas had to bear its full development cost. Lower fertility rates, the decline in household size and the ageing of the population mean that demand for traditional family houses on large blocks of land is likely to decrease in the future in favour of higher density housing. (It should be noted, however, that this does not necessarily imply a reduction in space per person as smaller households continue to seek more space per person.)

Traditionally, the urban fringes of Melbourne have provided opportunities for first time homebuyers to enter the residential market. Changes in family structure and in the economics of fringe development, as well as changes in the availability of stable full time employment, seem to be affecting the traditional dynamics of fringe development. The full outcomes of these changes are not yet fully understood. It is probable that fringe areas will remain important regions for new housing development.

Exurban Population Growth

The demand for exurban housing is likely to continue into the future but at a lower rate. The north-west of Melbourne is projected to be the main location for Melbourne's exurban growth in the future, especially around Bacchus Marsh, Gisborne, Romsay and Wallan. During the 1970s and 1980s there was rapid population growth in coastal areas and areas on the fringe of Melbourne. Improved mobility and greater accessibility to employment in suburban locations helped to facilitate this growth. Future exurban growth may not be as strong as in the 1970s and 1980s. Increases in housing affordability (for those sectors of the population which can afford loans) due

to lower interest rates in the late 1990s may allow more people to purchase housing within the urban area rather than beyond. Exurban living also poses problems for many households, particularly families, in terms of access to employment, education and health services. It may also be that the market for residential developments in exurban areas has simply slowed after the boom of the late 1970s and 1980s and will continue at a steady but lower rate.

Population growth in rural hinterlands of cities and towns raises issues of competing land uses – for example, commercial farmers as opposed to rural residents who commute to the city. There may also be problems in delivering services to a scattered population in exurban areas, especially when growth is unplanned. Likewise, if exurban growth is not planned for appropriately, there are likely to be environmental consequences such as pollution, land degradation and increases in introduced species of animals and plants. Exurban areas are important destinations for weekend visitors from Melbourne and those who own a second home in the region. Hence some of the issues surrounding exurban development – environmental and economic – are likely to continue to be important even if resident population growth rates fall.

Because the slowing in exurban growth rates has only emerged in the 1990s, it is difficult to know whether the trend will continue or strengthen in the future. Exurban growth in the USA shows little sign of slowing, but Australia's settlement geography differs from that of the USA in regard to its level of metropolitan primacy. It might be assumed from this, for example, that exurban development may not become as widespread in the Australian context. Nevertheless, the relationship between a growing metropolis such as Melbourne or Sydney and its exurban hinterland is likely to continue in some form. It may even be the case that increased growth and or increased density within the metropolitan area will have flow-on effects to exurbia. The case of Sydney suggests such a pattern of movement with increasing congestion and increasing costs of living becoming a push factor for people moving to exurbia. A greater understanding of the urban-exurban relationship is needed before future scenarios can be fully formulated and understood.

Future Settlement Patterns in Metropolitan Melbourne

The growth and changing socio-spatial distribution of population in Melbourne during the past two decades raises a number of broad issues and mainly concern discussion of what is the most appropriate urban form for Melbourne in the future. A key question relates to *where* an additional population of over 620 000 will live by 2030.

It is argued that urban sprawl is resulting in the loss of productive rural land at the fringe of the city, is encroaching into environmentally sensitive areas, is more costly to service in terms of infrastructure and, because of its expansionary nature, is unsustainable. These arguments were reinforced by the depopulation of the inner and middle suburbs of Melbourne in the last two decades which raised the prospect that established physical and social infrastructure, such as roads, public transport, hospitals and schools would be under-utilised in much of Melbourne. Currently, 16 per cent of Melbourne's dwellings approvals occur in metropolitan growth areas and 10 per cent of approvals occur on fringes outside designated growth areas. These levels would rise from 26 per cent to 33 per cent over the next ten years at current rates.

Arguments in favour of limiting urban expansion and encouraging *urban consolidation* stress that this would achieve more productive use of existing facilities in areas previously losing population and would at the same time reduce the negative impacts on the fringe in terms of cost and environmental degradation. Outmigration from inner areas has now been reversed. Public investment in the CBD, modernising and revitalising the city centre as a place of business and social and cultural exchange, has been accompanied by a wave of gentrification of the surrounding industrial and residential inner suburbs serviced by the tramway system. Following on the investments in the CBD, the proposed Metropolitan Strategy aims at containing urban expansion and restructuring the entire urban area as a "networked city" articulated around key Activity Centres to be located on transport intersections; these will be a focus for retail and business activity, social services, culture and higher density housing.

Although the basic concept of urban consolidation has won wide acceptance by many in government, business and the community in Melbourne, it is not without challenges and controversy. For example, many problems are seen to arise from the built form that consolidation assumes. There is a perceived danger that the architectural traditions and aesthetics of many suburban neighbourhoods could be lost or seriously degraded as a result of multi-unit development. However, it has been noted that even if urban consolidation was rejected as a policy, the need to renovate or rebuild much of Melbourne's older housing stock would remain. Those unfavourable to consolidation argue that denser forms of settlement could increase pollution and congestion as people may choose not to use public transport and continue to use their cars. There is also fear that consolidation would lead government to sell residual public land or open space in established suburbs; consolidation could also discourage the decentralisation of employment and services into the outer suburbs, thereby maintaining or increasing inequity across the city.

In the debate over consolidation, it has also been suggested that one way to manage population and urban growth would be to reduce the overseas migration intake or promote the decentralisation of Melbourne to the regional cities.

The dilemma of how to guide the spatial development of the city to a sustainable outcome without dampening its economic health is one which is faced by Melbourne and other metropolitan regions. The Metropolitan Strategy aims at achieving the most sustainable spatial form for economic, social and environmental spatial development of Melbourne and its Region in the future. The objectives which have been set for the distribution of new households are:

Regional cities and towns	11%-13%
Rural residential	14%-2%
Metropolitan growth areas	26%-20%
Metropolitan infill	43%-30%
Metropolitan strategic locations	16%-35%

Regional Towns in Victoria-Latrobe City

The long term spatial pattern of development in the State of Victoria has been dominated by three processes:

- The internal restructuring of the urbanised metropolitan areas – with changing functions and conditions – *e.g.*, gentrification of inner areas and the changing role of the CBD and Docklands areas in Melbourne.
- The suburbanisation of the urban fringes of the metropolitan area.
- The changing relationship between the metropolitan area and what is referred to as the “regions” *i.e.*, the outer districts of the Victoria State.

The State government has been concerned, rightly, to ensure that in the development of a Metropolitan Strategy all three issues are addressed. Whilst most effort was focussed on the first two issues since these represent the most significant issues in terms of metropolitan planning (in terms of scale and intensity) as part of the OECD review process it was also appropriate to give consideration to the way that the “regional” issue was being tackled.

This element of the study was dealt with in two ways – first, by general briefings, and second, by the Review Team site visit to the Latrobe Valley, which lies east of Melbourne, selected as a case study for considering the metropolitan – region policy issues.

State Government Perspective on the Regional Issue

The Government's stated view on the general relationship of regional settlements to the metropolitan area is as follows:

- Change is concentrating economic activity in the metropolitan core and main regional centres, with most people living in the fringe regions being tied economically to the metropolitan core areas.
- There is growing interaction between the regions and the core area.
- The strength of the regional centres varies greatly depending on local circumstances.
- Except for Latrobe City the fringe regions are growing more rapidly than the State generally.
- The main issues arising from this growth are:
 - Impact on water quality.
 - Use of mineral reserves for construction.
 - Conflicts related to the industrialisation of agriculture.
- The scale of development and its associated impacts on services and transport.
- The need for special planning controls to protect agricultural productivity.
- Growing need for better management of transportation demand particularly to differentiate between the needs of local and regional traffic demand.
- A growing pressure on the regional centres to absorb more development arising from improved transport links to them.

The implication of the above issues is the growing need for a more integrated planning approach to the metropolitan area and the adjoining regions, like the Latrobe Valley, based upon a "Network City-Regions" approach.

Latrobe Valley

The following key factors and trends pose problems for the Latrobe area:

- Recent population decline-amongst the highest in Australia.
- Low anticipated levels of population growth.
- Highest unemployment rates in Australia.
- Dominance of the electrical power generating industry based on brown coal.
- Low levels of small firms.
- Falling numbers of resident tax payers.
- Low property values which are increasing more slowly than elsewhere in Victoria.
- Poor health conditions with lower than average life expectancy.
- Relatively small population (69 000) located at some distance from the metropolitan core and presently unable to support a large number of services.

Policy Response

Based on extensive community consultations in the Latrobe Valley, the Victorian State Government established in 2001 a Ministerial Task Force for the Latrobe Valley. The Terms of Reference of the Task Force listed three objectives:

- Boost business and community confidence in the Latrobe Valley.
- Facilitate longer term economic growth in the Latrobe Valley as a whole.

- Improve the economic and social opportunities for those most disadvantaged in the Latrobe Valley.

Following a contested decision not to implement an initial proposal for creating an Energy Park in the Latrobe Valley, the State Government has now set a framework for the future of the Latrobe Valley via a Task Force Study which proposes a more diversified development of the region based on a series of measures to be financed by a \$105m package of support announced in June 2001.

The Task Force took a holistic multi-sectoral approach involving local people and all levels of government with a commitment to pursuing this approach in the years ahead. The framework is based around a number of themes or issues. Although key projects are those which are likely to produce rapid job creation, other aspects are nonetheless very necessary, for example: upgrading the visual quality of buildings in the Valley, and attacking areas of substandard housing and blight, even if job creation from the latter type of project is likely to be less and more long term. The Strategy includes investment in the following:

- civic infrastructure and transport;
- marketing and investment facilitation;
- industrial development;
- research and development;
- skills, education and ICT;
- building a dynamic small business sector;
- tourism opportunities;
- working with communities.

Assessment: Relationship of Regions to Metropolitan Areas

The State Government is correct in raising the issue of the role of the 'regions' when developing its thinking about the long term strategy for the Melbourne Metropolitan Region. It is expected that regional cities and towns in Victoria will represent 11-13 per cent of households in the years ahead, with rural residents representing between 2 and 4 per cent. There is a

strong interdependence between the metropolitan area and the regional cities due to:

- the historical importance of the regional hinterland to the growth of the *entrepôt* function of Melbourne; and
- the growing role of the regions in providing a “lung” for the urbanised area, as well as their future role in absorbing some of the forecast population growth, and as areas of potential growth in terms of new economies (*e.g.*, tourism and knowledge based economies).

Victorian State Government policies thus are seeking to promote the regional centres. However, more research is required to clarify the particular role and future opportunities of each of the regional towns. Priority is being given at state level to the investment in infrastructure to improve road and rail links to the regional centres, but it is unclear what the impacts of better transport links (both road and rail) will be for the regional towns in terms of their economic development.

The Policy Response for Latrobe Valley

The towns of the Latrobe Valley now grouped under “Latrobe City” have suffered from economic restructuring making the region one of the most deprived and disadvantaged areas of the State. This is reflected in the political priority that is now being accorded to Latrobe. The initiative merits praise in terms of the efforts which are being made to involve the local community and the State Government’s commitment to securing a better future for the Valley and its inhabitants. The staff from DoI involved locally demonstrate the level of enthusiasm and concern to make the proposals work. The championing of the Latrobe Valley by the State also means that those actions proposed are likely to be delivered.

Two questions were raised, however:

- Is the scale of resources identified by the Task Force proposals genuinely additional funding? Or is it repackaging of existing projects? Some elements of the package seem to be expenditures that would have taken place anyway. In addition, the two largest projects (public sector housing and justice precinct) are not projects which can be considered related to the economic development strategy, except in the broadest sense, and would not normally be considered to generate any significant impacts on the local economy, except to the extent that good housing and legal infrastructure are required for any community.

- Will the range of actions proposed be sufficient to address the issues that will influence the long term economic and social conditions of the Latrobe Valley? The answer to this question requires further consideration of the scope of potential economic action which might be envisaged for the area.

Despite the above remarks about the origin and types of proposals for the Valley, what is important is the way in which all the different actions are being articulated together as part of a Strategic Plan for the Valley rather than as individual, relatively unrelated projects. This proactive, holistic, and entrepreneurial stance provides added value.

Typical of the actions now underway in favour of the Latrobe Valley is the Investment Tour organised in March 2002 and opened by Victorian Premier Steve Bracks (see Box 3.1).

Box 3.1. Regional Investment Tour Program

As part of the Latrobe Valley Ministerial Task Force measures, Victorian Premier, Steve Bracks, led an Investment Tour to the Latrobe Valley in March 2002. The Premier noted that the Valley had some really strong positives, competitive advantaged and significant assets. He underlined the commitment of the government to play a leading role in bringing potential investors to the Valley. The Tour aimed at matching investors with the assets and strengths of Victoria's regions and promoting the regions directly. The Premier underlined that the Latrobe Valley is a region of great and largely untapped potential. He underlined that the Valley has:

- A sizeable population base and a labour force with a wide variety of skills and a strong work ethic.
- Excellent education facilities including TAFE and Monash University.
- Transport services, energy, water and telecommunications infrastructure which most Australian regional centres would envy.
- Low land and development costs with excellent access to Melbourne and beyond.

- Access which will be improved by the new regional fast rail link from Traralgon.
- Spectacular countryside – from snowfields to beaches and some of the State’s most beautiful national parks.
- Successful tourist attractions and strong emerging industries and opportunities in food production and agriculture.
- Exciting and cutting edge companies like Gippsland Aeronautics.
- Great recreational facilities and a wide range of highly affordable lifestyles.

Mr. Bracks concluded that all the ingredients were there for successful investment, for building and keeping a stable workforce and taking advantage of the Valley’s natural assets and advantages. The people of Latrobe are very committed to its future and Mr. Brack’s said that he appreciated the good working partnerships which had been forged with local organisations in the Valley from councils to businesses and community groups. He believed that the region’s greatest asset was its people and their determination to change the image of the Valley, develop new ideas and attract investment.

As part of the Task Force’s commitments the Premier assured support in terms of:

- business tax cuts;
- a major program of building and upgrading infrastructure;
- continuing regulatory reform to remove barriers to investment;
- a massive investment in innovation, education and training to build a skilled workforce for the future;
- a commitment to budget surpluses and sound financial management.

Source : www.vlc.gov.au

Future Potential

As noted by Premier Bracks, the Latrobe area has considerable assets:

- The dominant electric power generating supply source in Victoria has now been modernised, slimmed down (in terms of workforce not output) and is now competitive with other forms of generation.
- A Melbourne University campus has the potential to tap into the growing market for overseas students (one of the fastest growing sectors of the economy within the State).
- A rich agricultural base with local products which have not yet broken into the wider supply chains (except as small scale niche markets *e.g.*, cheeses and wines. The Valley should, however, focus on produce high quality quality products, for example organic products which are the market of the future instead of (as proposed) developing intensive pig and poultry farms which produce nitrates and will eventually lead to a ground and water pollution problem as in Brittany, France. This sector has the potential to serve the growing consumer demands of the metropolitan area, especially if links with some of the emerging dominant supermarket chains, as well as export potential.
- The potential role of the Valley as a “lung”/recreational market for the Melbourne metropolitan area especially if faster transport links are provided. Again this is a growing market.
- The only Australian small aircraft production company (Gippsland Aeronautics) which has a potentially large international market is located in Latrobe City.
- A large timber resource for which there are few locally based downstream industries as yet.
- The growing role as a residential commuter settlement (at reasonable prices) for the metropolitan area. This need not be a matter of commuting all the way to the center of Melbourne, but rather (as for other metropolitan areas) serving the outer districts of the metropolitan area. This issue is potentially very important in view of the unbalanced distribution of housing supply and demand within metropolitan Melbourne, with housing land supply concentrated in the west of the metropolitan area and the demand

focussed in the east, thus potentially served by the Latrobe Valley if transport connections are improved.

The conclusion that can be drawn from the above considerations is that the Latrobe Valley has undergone radical restructuring with associated social problems particularly for the individuals involved and has for many years had to live with a bad image. Although much effort will be required, the main issue essentially a problem of effecting the transition in the function of the area. However, there is every reason to be sanguine about its future. A bold and long term strategy for the development of the Latrobe Valley is required and governmental and community actions should be pursued to that end.

Melbourne's Economic Context

The International Economic Context

The way that Melbourne interacts with regional Victoria, the rest of Australia and with the wider world will influence the future development of the metropolitan region. In recent years, Australia has reached a new level of international interdependence through telecommunications, the growth of international trade and finance and the development of larger trans-national organisations. Thus, changes at the global level have implications for Melbourne, Victoria and Australia. The 20th century was a period of population growth, urbanisation and increasing awareness of social and environmental consequences of growth. Of critical interest to Australia is the fact that the population of Asian cities will almost double in the next 30 years, from about 1.4 billion today to more than 2.7 billion in 2030. The estimated population of Asia's cities will then be twice the combined population of all the cities of the developed world. The sheer size of the emerging national markets in the cities of Asia suggests they will be key locations for new finance and service industries and potential sites for innovation, providing markets for products and services which Australia can help provide. As a result, the focus of Melbourne's economic opportunities will increasingly lie in Asia.

The National and Regional Context

Analysis of the economic situation of Melbourne has to be viewed in the context of the position of Melbourne in relation to other Australian metropolitan areas and in relation to the Australian economy as a whole. The 1998 Australian Capital Cities Report, O'Connor, noted the recent resurgence in the role of the largest Australian cities, in particular Melbourne, which alongside the continuing strong role of Sydney, has

sharpened the contrast between the fortunes of the big cities and the rest of the nation. A number of changes in demography and investment have underpinned this outcome in recent years. Changes have taken place in interstate migration with population flowing back towards Victoria, tempering some loss of international migration. As a result, Melbourne has seen job growth in a number of sectors, an unemployment rate that now matches the national level of about 6 per cent and a housing market that has recorded new activity and substantial gains in prices. Those trends have not been matched by shifts in some of the fundamentals of Victoria's economy, however, with low levels of non-residential construction and falling shares of construction in the office sector and retailing. Nonetheless, there is no doubt that Melbourne's role within its own state and within the nation has been strengthened in recent years.

The Capital Cities Report indicates that the stronger role of the largest cities in Australia has been in some areas accompanied by problems of community decline, job loss, out migration, falling or stagnant house prices, and loss of government and private sector services in non-metropolitan areas. These trends are seen to be linked to the fact that new ways of doing business, in particular outsourcing and privatisation provide opportunities in larger cities at the expense of non-metropolitan regions. (See Box 3.2.)

Box 3.2. Australia's Urban East Corridor

One of the significant changes in the evolution of metropolitan development in Australia in the past decade has been the spread of settlement and business beyond the traditional borders of cities or metropolitan regions. An initial interpretation of this phenomenon was presented in the concept of mega cities, where the metropolitan areas were defined to include fringe areas as well as the main mega metropolitan regions as they spill out over surrounding fringe areas and connect up with other coastal cities.

The Urban East Corridor includes all three mega metro regions (Brisbane, Sydney and Melbourne) along with Canberra and the communities that adjoin the highways linking the main cities. There are significant variations within this corridor. As a unit it captures many of the activities that are directly connected to the metropolitan areas. These include intensive agriculture for fresh food production and wine in a number of places, whose management and export activity is often organised through the large cities.

They also include tourism centres, catering primarily to the metropolitan markets like the north coast of New South Wales and the coastal areas near Melbourne. In addition, many communities in this region attract people in retirement as it is easy to maintain contact back to families in the metropolitan areas. Finally parts of this corridor offer lower cost housing in communities with access to major centres by road (and in some cases by rail) for those who cannot afford the prices of the larger cities. Hence much of the activity in this corridor has as its foundation the contact with metropolitan regions.

The corridor has attracted around 75 per cent of the national total non-residential construction over most of the past decade. It is in the office sector that the corridor's role has been the most prominent, with over 80 per cent of national office construction. In factory investment, the corridor has been less significant, suggesting that resource based sites and those in cities and regions outside the corridor have become more attractive for new factory building since 1992. The hotel sector has likewise looked elsewhere for opportunity, probably reflecting an upsurge in the importance of more remote coastal and inland sites for this form of construction in the last few years.

In population related activities like health and retailing, investors have generally spent more on new buildings than the 65 per cent share of the nation's population would suggest. That is especially so in the case of retailing where shares of new buildings have crept up to and beyond 70 per cent. Spending on new buildings by the education sector has generally reflected the region's population. Overall, information on construction indicates that the corridor stretching between Brisbane, Sydney and inland to Melbourne connected by three of the main national highways has provided a location for a larger share of the nation's business than would be expected given its share of national population. Furthermore, that concentration of activity is actually beginning to intensify slightly. That outcome is significant within the nation's development for two broad reasons: its potential impact upon sustainable development; and the equity of settlement, services and opportunity within Australia.

Source : Kevin O'Connor, The Australian Capital City Report, 1998, Centre for Population and Urban Research and School of Geography and Environmental Science, Monash University, Australian Housing and Urban Research Institute.

Restructuring of Australian Industry

During the 1980s in response to globalisation, the Federal Government set out to encourage the restructuring of Australian industry. Manufacturing had developed rapidly during the 1950s and 1960s under the protection of

import quotas and tariffs, but by the 1970s many industries were not competitive in world terms. A programme of industrial reform was implemented which combined phased reductions in protection with measures to reduce costs to business. By progressively reducing tariff protection and removing quotas, the Government sought to reduce the costs of export industries and encourage domestic industries such as automobile manufacturing to become internationally competitive and thus survive and prosper in the new global economy, albeit with smaller workforces.

At the same time, the Government initiated a programme of deregulation and microeconomic reform across a spectrum of industries. The Australian financial system was deregulated and opened up to foreign competition. Government business enterprises were corporatised and commercialised, management and work practices were improved to lift efficiency, the tax system was reformed, and labour market measures adopted. A number of industry plans were also implemented, including the steel, heavy engineering, motor vehicle and textiles, clothing and footwear industries. These policies which were key elements in overall economic strategy contributed to major impacts on employment in Australian cities. All of them experienced significant changes in industry structure and labour force participation.

De-Industrialisation and the Rise of the Service Sector in Australia

The growth of manufacturing was central to the rapid expansion of Australian cities during the 1950s and 1960s, and by 1971 provided far more jobs than any other single industry category in Sydney, Melbourne and Adelaide. Even in Brisbane and Perth, 20 per cent of all employment was in manufacturing. However, massive job losses occurred between 1971 and 1991 as manufacturers lost business to overseas competitors, moved their operations to lower-cost countries or rationalised their Australian operations in an attempt to improve competitiveness. ABS Census data show that Sydney suffered a net loss of 135 000 manufacturing jobs, Melbourne 103 000, and Adelaide 27 000 between 1971 and 1991.

One of the biggest challenges for Melbourne is the rapid rate of growth internationally in high-skill, high-pay knowledge based goods and services such as the upper end of business and financial services, biotechnology, information technology, design and creative services, telecommunications and cultural industries (Table 3.1). World trade in these activities is expected to grow significantly over the next 20 years and is increasingly being conducted through a small number of "global" cities such as New York and London.

Table 3.1. Change in world trade/Supply by key product/Service groups 1993-2000

Product/Service	Trend growth p.a. (%)
Agriculture and food	8
Chemicals	6
Construction materials	10
Advanced manufacturing technology	14
Biotechnologies	20
Medical technology and pharmaceuticals	7
Motor vehicles	6
Other machinery and equipment	5
Sporting goods	12
Environmental products and services	7
Geographical information systems	18
Software	11
Telecommunications products and services	6
Computer equipment components	6
Business, professional and education services	9
Cultural industries	7

Source: DTSBI/NIEIR.

Table 3.2. Shares of national employment, 1996

Sector (%)	Melbourne		Sydney	
	1996 %	2000 %	1996 %	2000 %
Total employment	18.5	18.5	21.9	22.4
Manufacturing	26.4	24.3	22.7	22.3
Transport	20.0	17.2	21.2	24.9
Services to transport	21.2	20.5	22.0	37.4
Basic wholesaling	21.1	20.9	28.3	27.3
Communication	25.1	26.2	26.2	28.3
Finance	21.5	24.7	35.2	34.7
Insurance	19.8	24.3	45.3	42.3
Services to finance	18.9	17.3	31.8	43.5
Property services	13.3	16.1	21.0	25.0
Business services	22.9	23.6	27.2	29.7
Construction services	16.4	15.0	21.8	23.2

Source: Kevin O'Connor.

The concentration of international trade through a small number of cities is also happening within nations. In the case of Australia, Sydney has a much higher share of the nation's jobs in key knowledge sectors such as finance, insurance and business services than Melbourne. Moreover, between 1996 and 2000 Sydney increased its share of total jobs while Melbourne reduced its share in areas that have traditionally been its strength such as manufacturing, transport and basic material wholesaling (Table 3.2).

Between 1989 and 1997 Sydney captured around 60 per cent of new South East Asian regional headquarters whereas Melbourne attracted around 30 per cent. Since 1996 Melbourne has attracted less than 15 per cent of the 116 regional headquarters facilitated by Invest Australia over the period 1996-2001 compared to 54 per cent that located in Sydney.¹ The Department of Innovation, Industry and Regional Development (DIIRD), former Department of State and Regional Development (DSRD), notes that the rise of this knowledge-based “new economy” radically alters the ways that cities and regions can establish and maintain competitive advantage. The key to success in the “old economy” was cost: cities established competitive advantage via advantages in natural resource endowments, transportation access, the cost and productivity of physical labour and by reducing the overall costs of doing business. In the new economy, advantage comes to those places than can quickly mobilise the best people and the nexus of competitive advantage shifts to those regions that can generate, retain and attract the best talent.

NOTE

1. Does not include RHQs that did not deal with Invest Australia.

Chapter 4
Competitiveness of Metropolitan Melbourne

Introduction

It is the objective of regional policy in metropolitan areas to achieve long-term sustainable growth. Thus, regional policy should aim at improving economic competitiveness and at the same time reducing the negative social and environmental consequences that may result from urban economic and population growth. The balance between these is achieved when the marginal costs of an additional firm or household are equal to the marginal benefits this additional unit creates. The benefits might show up in increasing GDP per head and investment, thus improving the potential for long-term growth, as well as increased tax revenue. The degree of these marginal benefits of economic activity depends on the basic conditions underlying the activity of each firm in the city. Especially with regard to a metropolitan area like Melbourne, it may for instance be assumed that economies of scale in the form of agglomeration economies can be exploited. The benefits, however, are opposed to marginal costs that result from the additional activity of this firm. Direct costs are induced in the form of congestion effects, for instance as a result of additional demand for public goods like infrastructure, as well as negative environmental effects. Indirectly, the activity of each additional firm may induce social disparities, for instance via change in labour demand (structure) as well as rather long-term influences on the property and housing markets. The role for government then can be thought of firstly, as having the conditions right so that the markets can work efficiently, secondly, supplying public goods like infrastructure, education and environmental quality where public activity is necessary, as well as thirdly, correcting for (additional) market failures, especially with regard to congestion and environmental effects of increased firm activity and population growth.

Competitiveness – What the Theory Offers

The following section concentrates on the first issue, *i.e.*, the competitiveness of Metropolitan Melbourne. Competitiveness is viewed in the sense of the capacity to attract and contain mobile factors and to use immobile and mobile factors in an efficient way. With this definition in

mind, competitiveness is best reflected in the level and growth rate of (labour) productivity.¹ According to these considerations, the analysis will be structured along the main determinants for location and the level and growth rate of productivity, as outlined in Location Theory as well as the Theory of Economic Growth.² Thus, we can consider the traditional factors of location, physical capital and supply and quality of infrastructure, thus having in mind the neo-classical growth theory, where technological progress is assumed to be exogenous. This assumption will then be relaxed leading to more modern theories of economic growth whereby technological progress is endogenously determined by investment into human capital and innovation as well as other efficiency enhancing activities. We will then focus on factors like human and knowledge capital, factors influencing the overall performance of firms like firm size and market structure as well as the general environment firms are facing doing business in Melbourne. Together with basic infrastructure and human and knowledge capital, these factors are implicitly reflected in the industrial structure of an economy.

Industry structure, *i.e.*, the distribution of employment or production across sectors and industries, is one of the main determinants of competitiveness. Firstly, this influence is purely statistical. The overall level and growth rate of labour productivity is a weighted sum of the labour productivity of each industry, whereby the weights are given as the share of employment of the respective industry of overall employment. Thus, the level and the growth rate of labour productivity is higher the more the economy consists of industries with a high level or growth rate of productivity. Secondly, and rather indirectly, both, the level as well as the growth rate of labour productivity of an economy may be enhanced if there are so-called spillovers from upstream firms that are transmitted to other firms. This is for instance one reason why modern information and communication technologies are seen as one main driver of productivity in most OECD-countries. These industries are not only industries with high level and growth of productivity; they can also act as productivity-increasing process innovations. Thus, industries that are extensively using such technologies can themselves increase labour productivity.

High levels of productivity can be observed in industries that are characterised by high capital-intensity or which are in the later stage of their industry life cycle. For instance, industries that are already in the mature phase – like the food, beverages and tobacco industry or the textiles and clothing industry – may be characterised by above average labour productivity. Firms within these industries produce already at the production frontier where further increases in productivity cannot be achieved – unless major process or product innovations occur. In contrast, firms in the initial or the growing phase of the industry life cycle like biotechnology or some

groups within the electronic and the precision instruments manufacturing may still have a relatively low level of labour productivity. Although firms in these industries produce at relatively low average costs per employee, their value-added may be reduced because of investments that are relatively expensive due to the high risk of production and market performance that firms of these industries are facing.

Strong potentials for productivity growth are found in R&D – or generally knowledge-intensive industries like electronic machinery and equipment or in pharmaceutical product manufacturing. These are industries that extensively use modern information and communication technologies in their production process like finance and insurance services. The underlying reason is that both R&D as well as the investment into modern ICT-technologies are activities that reduce production and transaction costs and thus increase the productivity of each employee.³ Thus, an industry structure that is favourable for long-term productivity growth may either be characterised by industries that are in the initial phase of the industry life cycle, by R&D – or broadly speaking knowledge-based industries or by industries that intensively use modern information and communication techniques.

The traditional main determinant for competitiveness of an economy is the level of investment as well as the supply and quality of infrastructure. These are both crucial factors spurring competitiveness as well as long-term growth. They make a city attractive for new firms, but also facilitate firm expansion. The reason is especially the reduction of both main types of costs determining the location of firms, fixed costs of setting up a firm as well as transport costs, which is achieved by a large supply and high quality of floor space and basic transport and energy infrastructure.

With increasing globalisation and a stronger shift towards a service, and especially a knowledge based economy, the role of information and knowledge diffusion becomes more and more important.⁴ This is especially the case in metropolitan cities like Melbourne where main firms in both manufacturing and services are located and thus, where information is created and demanded. As a consequence, infrastructure provision can no longer be restricted to the traditional transportation infrastructure. In contrast, recent trends stress the importance of an up-to-date provision and use of information and telecommunications technologies (ICT). However, communications markets are complex and interrelated and, especially, the importance of being up-to-date in these technologies is difficult since these technologies are characterised by rapid change and fast technological obsolescence. Both facts make it very hard to forecast and guide future development within this industry. And, future competitiveness may be

hindered by a lack of competition or by entry deterrence behaviour of the incumbents in these markets. Although in most countries competition has been introduced by privatisation and improved regulation during recent years, ICT-services are still to a high degree vertically-integrated. Thus, future competitiveness and growth are dependent on whether the respective form of regulation allows enough competition in all components of these vertically integrated ICT-industries.

This directly links to the crucial determinant of competitiveness in the more recent theoretical literature: the role of the knowledge and human capital base of a city or location. Knowledge and human capital are not only more and more important as a location factor, especially in metropolitan cities. What has to be stressed is the role of knowledge and human capital as main drivers of productivity growth and thus of future competitiveness, since they are preconditions for innovation activities and other productivity increasing activities.⁴ The reason for this important role lies in the non-decreasing marginal returns that both forms of capital may achieve in the production process. The effectiveness of any unit of investment into human or knowledge capital does not decline with increasing level of the already accumulated knowledge or human capital stock. Due to learning curve effects, the effectiveness for each firm's production might even increase with increasing accumulation of human or knowledge capital. Additionally, due to technological spillover-effects the social benefits for the economy from an increased investment into human or knowledge capital are much higher than the private benefits for each firm.

Having in mind that the long-term competitiveness of a region or economy is reflected in the level and the growth rate of productivity, this capacity to innovate is of particular importance. There are mainly two forms of productivity effects due to innovations: firstly, process innovations allow cost reductions and product innovations earn a higher price and thus more value added per factor input. Secondly, innovations may indirectly promote productivity growth in form of intermediate goods that are used in the production process of final goods. This is due to increasing returns from exploiting specialisation advantages in the case of a higher variety of intermediates or from direct cost reductions in the case of a higher quality of intermediate goods.

Thus, direct and indirect productivity effects arise from the accumulation of knowledge and human capital. Thereby, knowledge capital may originate from R&D expenditures as well as investments into machinery and equipment or product design that are necessary for specific innovation projects. Or, this may originate from the transfer of knowledge in the form of knowledge embodied in traded goods or technological

spillovers, *i.e.*, knowledge which – due to the public goods character of research – is not fully captured by the knowledge producing firm and thus acts as an external effect on the receiving firms. Accordingly, human capital may originate from in-house or domestic private or public investment into education and training. It may also originate from employing qualified personnel with specific job-experiences from other firms either within the region or state or from other states within Australia or abroad. With the increasing globalisation of markets, the international movement of skilled personnel has been taking on a more important role in human and knowledge capital accumulation as well as for the attractiveness of specific locations.

The basic idea of human and knowledge capital driving productivity growth lies in the endogenous nature of technological progress and thus of the overall efficiency with which production occurs. This technological progress is determined on the microeconomic level. It is thus also determined by the size of the firm and the competition intensity in the markets where these firms are acting. On the one hand, a small firm size might have productivity enhancing effects since the entry of small or rather young firms is one main source of product or process innovations. Additionally, because of their entry or the threat that they might enter in the near future, such small firms impose (potential) competition on the incumbent firms which induce them to undertake cost reducing or productivity enhancing activities. An optimal degree of competition might be achieved in a so-called “open oligopoly”. This is the case in an oligopoly of a few firms acting on a market that is open for entry. Firms can enter the market and will thus act as (potential) competitors imposing a real threat on the incumbent firms. As long as the incumbents do not attempt to deter the other firms from entering, the entry leads to a situation where neither of the incumbent firms can achieve and exploit large market shares.⁶

On the other hand, however, a small size structure and a market structure with a high degree of concentration may hinder productivity growth in various respects. Firstly, there are factors characteristic for small firm operations that may result in market failures in the form of a socially sub-optimal entry and survival of small firms. Small firms may not be able to exploit economies of scale or scope. They may be confronted with a lack of or difficult access to relevant information on input or consumer markets, especially on an international sphere, as well as difficult access to financial resources. Lack of sufficient financial internal or external resources together with the high risk of failure may especially hinder entry and survival of high-tech firms or those starting off just with an idea (the real entrepreneurs). Secondly, negative effects from small firm size structure and low entrepreneurship for productivity growth may be due to external factors

such as a high degree of or unfavourable regulation or entry deterrence from the side of the incumbents. In that case small firms cannot fulfil their role as “entrepreneurs” spurring competition by entering the market and thus inducing productivity increasing activities like innovation.

However, a small firm size structure, especially the lack of capacity to exploit internal economies of scale might not necessarily be a problem. Rather, productivity effects and thus potential for future productivity growth may result from external economies of scale that result from agglomeration and the localisation of industries within a region. This is for instance possible via clustering and networking, *i.e.*, by horizontal and vertical co-operation, most of all in the form of regional networks with long term contracts. The rationale is that by locating close to relevant firms and by co-operating with other firms, each firm can economise on costs by concentrating on its core competencies instead of having to invest into competencies in-house that may be provided cheaper through external sources.⁷ And, it is especially in a metropolitan city like Melbourne where there are several possibilities to exploit such external effects.

External economies of scale arise in the form of agglomeration and transaction cost advantages, most of all in the form of specialisation advantages. Thereby, factors determining agglomeration are – according to the Marshallian theory of agglomeration – the availability of labour and relevant suppliers, downstream industries and services as well as technological spillovers. Transaction cost advantages are the easy access to regional, technological and communicative links as well as the organisational security that is provided through being member of the network itself. What is crucial is the easy and fast flow of information and thus the (technological) spillovers within the network. Spillovers directly increase productivity and thus the competitiveness of firms by reducing search and transaction costs. Indirectly they spur productivity since they induce the productivity enhancing effects. And what is essential for agglomeration advantages to actually materialise is a sufficiently large size of the market, such that it is profitable for firms to deliver to the market only from one location instead of spreading affiliates across regions. Finally, specialisation advantages in the form of reduced transaction costs are especially favoured within a stable network: long term contracts provide the organisational security as well as the frequency of transactions that make specific investment possible and profitable as well as induce learning effects at transactions.

While the Marshallian theory focuses on agglomeration as the accumulation of different industries within one area, Krugman (1991) and also Porter (1990) go one step further. They realise that firms of one

industry or of industries that are related to each other concentrate, *i.e.*, localise within one area, whereas other industries locate in a different area. The idea of localisation is also prevalent in the empirical literature about economic clustering and networking. While clusters are in general defined as a bundle of firms of one or more industries, there are several examples of clusters where all member firms belong to one or few related industries. Very prominent examples are the Silicon Valley and Route 128 in Massachusetts, or the textile manufacturing clusters in Northern Italy. The crucial point is that in these examples firms can exploit specific conditions that are common for all, like for instance the proximity to universities and thus high quality knowledge. And, since these are very specific factors that these firms find there, it may be presumed that there result positive productivity effects that are even stronger than those from pure agglomeration.

Localisation of industries may have an additional advantage for the society: Not only can the firms save transport costs, but also the economy as a whole. This is especially due to the fact that the concentrated location of industries and their input markets facilitate transport management throughout the region. Having all inputs close to each other makes only one main route necessary to interconnect the firms with one another. In contrast, when industries are located in a very dispersed pattern throughout the overall region, a whole network of interconnecting routes has to be established. Having this in mind, it is especially interesting in the case of a metropolitan city like Melbourne to assess whether there are some indications for clusters in the sense of a localisation of industries.

Finally, what might strengthen the relevance of the various determinants for location and growth is the general business environment within metropolitan cities like Melbourne. Firstly, a vital cultural climate may improve the general business environment and thus increase location of firms. This applies not only in the sense of a strong touristic place, with tourism as a growing sector in itself. Rather, cultural activities can be indicative of a city which is open to international influences, which is tolerant of diversity and which promotes innovation. The concentration of specialists in design might help in the better delivery of private and public services. It may also lead to a generally more open and also risk-taking culture, thus fostering entrepreneurial activities. This might be especially conducive for industries in the new economy that live from the exchange of information flow and depend on design capabilities. And, it is especially in metropolitan cities where a high incidence of arts in all forms can be found. Secondly, a business environment that is conducive for location and growth is characterised by a low degree of regulation and a government which

restricts its intervention to providing the general framework and conditions such that markets – for instance financial markets – work efficiently.

Having these theoretical considerations of the definition and the main determinants of competitiveness in metropolitan cities in mind, Policies should be aimed at improving the attractiveness of a region for location and firm entry, but also enhancing investment into expansion and productivity increasing activities. What has to be stressed here is that neither of these factors can be considered as the one factor alone leading to higher competitiveness. Rather, it is the combination of factors through which competitiveness can be enhanced.

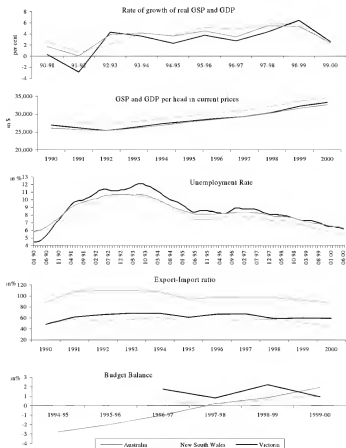
Assessment of the Competitiveness of Melbourne

The strengths and weaknesses in the economic development of Melbourne will be analysed by asking the question: To what degree is Melbourne competitive compared to other cities? As indicated above, competitiveness is measured in terms of attractiveness of the location of Melbourne and the capacity to use mobile and immobile resources in an efficient way. This is achieved by both a stable and well-performing macro- and structural-economic situation as well as by factors that are favourable for efficient and productive firm activity at the micro-level. The analysis will start with the general economic development of Victoria. This is mainly due to the interdependence between Melbourne and Victoria: On the one hand, Melbourne, as the only metropolitan city in Victoria, has an important influence on Victoria's economic performance. On the other hand, the attractiveness of doing business in Melbourne is to a high degree dependent on the overall performance of Victoria. By going from the broad macroeconomic level to the more structural and microeconomic sphere the degree of spatial desegregation will increase, leading finally to the analysis of the distribution of economic activity in space within the greater Melbourne metropolitan region and problems firms are facing in their daily business.

General Economic Development in Victoria

Victoria has shown a relatively good economic performance over the last ten years, especially the last two years as compared to other Australian states (Figure 4.1). Firstly, Victoria's GSP growth rate in 1999-2000 is slightly higher than the Australian average as well as the rate of New South Wales. Thereby, its GSP per head has been continuously higher than Australian average over the last ten years. Secondly, after a long period of very high unemployment, especially between 1992 and 1994, Victoria

Figure 4.1. General economic situation in Victoria



Source: Australian Bureau of Victoria.

managed to reduce the unemployment rate to one which is in line or even slightly lower than the Australian level of around 6 per cent. Thirdly, additional calculations have shown that high growth in GDP is linked with high growth rates in exports of goods and services of about 15 per cent from 1998 to 1999.⁸ Finally, Victoria showed a steady budget surplus over

recent years as compared to New South Wales. In 2000 Victoria's budget, with an operating surplus of 1 per cent of GSP, is almost balanced.

There are however three points which may evoke concern.

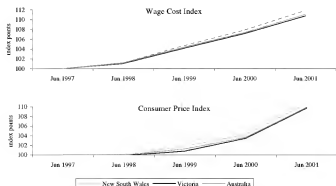
Firstly, the main indicators of economic growth, GSP per head, unemployment, and trade balance, have been lagging behind New South Wales (NSW) for the longer period. For instance, Victoria only caught up in the last two years in terms of GSP growth, while over the previous ten years the average rate of growth of GSP was 2.8 per cent which was relatively low compared to the average rate of 3.5 per cent for Australia and 3.7 per cent for New South Wales. Secondly, Victoria showed a persistently higher unemployment rate during the 1990s. Thirdly, Victoria shows a weak trade performance as measured by a much lower export-import ratio than the Australian average.

The fact that the unemployment rate in Victoria was higher than that of New South Wales, but is in line for the most part with the other states, may indicate structural problems that are more severe in Victoria than elsewhere in Australia. For instance, persistently high unemployment rates could have been due to the concentration of various areas of the state on declining industries, as it is the case for the Latrobe Valley to the South East of Melbourne. Together with the lower levels and growth rate of GSP this may indicate that Victoria was hit much more severely by the 1991 crisis than the other states in Australia, especially New South Wales, Victoria's main competitor. This might be especially the case since NSW was already in former times more focused on service – instead of traditional manufacturing industries. Victoria may now be catching up *vis-à-vis* other states within Australia. One of the main reasons why Victoria managed to reduce the unemployment rate could be the development of wage costs – as outlined in the Figure 4.2. Both wage costs and prices increased at a slightly lower rate than in the other states and the increase in wage costs is in line or even lower than the labour productivity.

Another reason for concern could be the trade performance and the productivity development of the Victorian economy. Since New South Wales also shows a very low export-import ratio, this may indicate a different specialisation and may not be necessarily negative. It could be argued that such a ratio only reflects the fact that Melbourne is one of the main transport hubs for Australia and it would naturally have high imports. The reasoning behind this argument would be that goods are registered as imports in Victoria although they are then transported to other states within Australia. As will be shown later, Melbourne has the leading container port servicing not only Victoria, but also all other states within Australia with goods and services from abroad. Despite the attractiveness of this argument,

it should also apply in the other direction, *i.e.*, for exports, especially since the further delivery of goods would show up in the form of exports out of Victoria. Thus, it could still indicate problems experienced by Victorian firms in selling their products on international markets.⁹

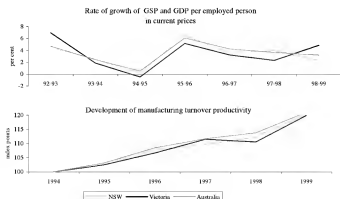
Figure 4.2. Wages and prices



Source: Australian Bureau of Statistics, OECD calculations.

With regard to the productivity performance and hence the future competitiveness of the Victorian economy, the empirical results, as presented in Figure 4.3, show a mixed picture. On the one hand, Victoria is characterised by a relatively high productivity level as compared to the average level for Australia – as long as productivity is measured in broad terms as GSP per worker. Its GSP per employed person is about AUD 69 500 as compared to AUD 68 600 for Australia. On the other hand, its level is much lower than that of New South Wales, about AUD 72 500. Additionally, its performance with regard to the long term potential for productivity growth is not so positive. Since 1995 Victoria lost its lead in terms of productivity growth, with GSP per employed person as broad indicator for labour productivity. This is even more pronounced within manufacturing, where Victorian firms even had to face negative growth rates of labour productivity as measured as value-added per worker in 1998 after a short upwards movement the year before.

Figure 4.3. Productivity in Victoria



Source: Australian Bureau of Statistics, OECD-calculations.

What is surprising is that the trend in GSP per worker is slightly lower in Victoria than in the other states of Australia from 1995 onwards. It is surprising since Victoria is seen as the manufacturing centre in Australia and manufacturing is, besides business, finance and insurance and communication services, one of the industries with high potential for productivity levels as well as growth. Strong concern may not be warranted since the average difference between Victoria and New South Wales concerning level and growth rate of productivity is still relatively low over the whole period of the last ten years. However, indications of a more negative trend are given in the development of real absolute GSP and GSP per head which shows that the upswing in 1999 was immediately followed by a downward movement again in 2000, in Victoria even somewhat more pronounced than in other states in Australia.

In the following section, we will examine whether the performance of Victoria with regard to the macro- and structural economic trends is due to weaknesses of firms and industries within the Melbourne metropolitan region. Although the unit of analysis is the region of Melbourne, lack of availability of regional disaggregated data makes it necessary for some aspects to be based on broader information on Victoria and assume that the information is also true for metropolitan Melbourne. This procedure is justified by the very specific role of Melbourne for the overall state in comparison to other international cities. For instance, 80.3 per cent of all

firm locations of Victoria are situated in Melbourne, with around 80 per cent of total employment and 77 per cent of total manufacturing turnover of Victoria.

The Industry Structure

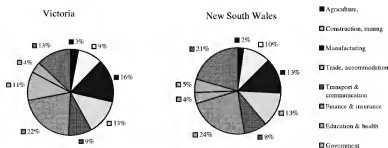
From the theoretical considerations we know that an industry structure favourable for long-term productivity growth may either be characterised by industries that are in the initial phase of the industry life cycle, by R&D – or broadly speaking knowledge-based industries or by industries that intensively use modern information and communication techniques. In order to assess the relevance of industrial structure for the competitiveness of Melbourne metropolitan region, we will look at both the level and change in the domestic and international specialisation as well as the level and change of productivity of these industries. This will be done using data on a very disaggregated sectoral level. With regard to domestic production we use employment and value added data – or if these are not available, approximations like total factor income and turnover. Thereby, the industries will be grouped into technology-classes according to the extent of embodied technology in order to take into account the specific growth potential of R&D intensive industries. The international specialisation will be analysed using inter- and intra-industrial trade indices such as the revealed comparative advantage (RCA) and the Grubel-Lloyd-Index based on international trade data.

The broad picture of industry structure reflects what could be expected from Victorian government background reports as well as from the historical development of economic activity in Melbourne and Victoria as outlined above. Manufacturing has a persistently larger share of overall production in Victoria than in New South Wales (Figure 4.4). Although business and financial services contribute increasingly to Victorian production, their contribution to total factor income (TFI)¹⁰ is steadily about 10 percentage points higher in NSW than it is in Victoria. In contrast, the Victorian economy has a higher share of education, health and government services. This, together with the increasing share in manufacturing in Victoria, may be seen as an indication of the strong role of health services and related knowledge-intensive industries such as biotechnology, equipment manufacturing and others, or the general incidence of skills and research.

From the empirical results, it is not clear whether the industry structure in Melbourne or Victoria is favourable for long-term productivity growth and thus future competitiveness (Table 4.1). Some industries with potential for high future growth like manufacturing, financial and other business services as well as education and health services have a high share of overall

employment in the Victorian economy. However, these industries are characterised by low levels or growth rates of productivity when compared to the respective industries in NSW.¹¹ For instance, manufacturing firms in Victoria achieved above-average productivity in 2000. However, it is still lower than that of New South Wales. And, while the growth rate of total factor income per employee within manufacturing is higher in Victoria than in New South Wales, a rate of 3.6 per cent may not be sufficient to push through overall productivity growth. Concerning financial and business services, both, the level as well as the growth rate of labour productivity are above average but only about 85 per cent of the respective values in New South Wales. Finally, while education and health services show a productivity level that is higher in Victoria than in NSW, the absolute level is relatively low and the growth rate cannot compete either with that of NSW nor with the other industries within Victoria.

Figure 4.4. Distribution of total factor income across broad sectors, Victoria 2000



Source: Australian Bureau of Statistics, OECD-calculation.

Concerning transport and communication services which also have high potential for growth now and in the future, the picture is ambiguous. On the one hand, these services show both an above-average level as well as growth rate of labour productivity. And, both, level and growth rate are higher in Victoria than in NSW. On the other hand, the share of transport and communication services, in total employment in Victoria is relatively low – although almost comparable to NSW. This may not be a problem unless the skewed distribution towards transportation services is too focussed on

traditional services with low potential for further growth at the cost of modern ICT-technologies that could spur overall productivity growth.

The results concerning the technology-intensity of the Victorian industry structure are also ambiguous. On the one hand, according to the results in share of employment as well as productivity level in Victoria as in New South Wales. On the other hand, while in NSW several technology-intensive manufacturing industries including some high-tech industries like electronic equipment and some chemical manufacturing have a relatively high share, the Victorian manufacturing is almost totally concentrated on motor vehicle and parts and printing and publishing. The level of aggregation is too high to give a clear picture with regard to the specific technology level. However, some concern might be justified since the Victorian motor vehicle and parts industry has concentrated on the assembling of cars rather than on high-value activities like R&D. The high productivity level in this industry should thus not be overestimated. It might rather reflect that this industry is in the final, mature stage of the industry life cycle, where the potential for future productivity growth may be limited.

Table 4.1. Industry structure and productivity in Melbourne and Victoria, 2000

	Employment share 2000			Productivity ¹ level		Productivity ¹ growth	
	Melbourne	Victoria		2000		1999-2000	
	% of total	% of total	% of NSW	In 1000 AUD	% of NSW	%	% of NSW
Agriculture,	0.2	3.8	90.0	48.8	140.4	5.4	443.7
Construction, mining	5.5	7.9	81.8	67.4	103.4	13.2	119.7
Manufacturing	17.8	15.2	127.1	67.1	89.5	3.6	175.5
Trade,	25.3	25.6	99.3	31.6	92.8	5.1	201.8
accommodation services							
Transport and communication	6.1	6.4	93.3	82.4	103.7	9.1	149.6
Finance	19.6	16.6	105.4	74.4	83.8	10.0	85.0
and business services							
Education and health services	15.5	15.1	89.2	44.7	123.4	4.7	84.1
Government and defence	3.2	3.0	96.3	86.9	84.7	0.0	0.0
Other services	6.8	6.4	111.1	122.1	71.2	7.2	133.6
Total	100.0	100.0	100.0	60.3	93.9	6.9	109.9

1. Total factor income per employment.

Source: Australian Bureau of Statistics, OECD calculations.

Table 4.2. **Employment and labour-productivity in technology-intensive industries 1999, Victoria and NSW**

	Employment share in % of total		Value-added per worker in 1 000 AUD	
	Victoria	NSW	Victoria	NSW
Printing and services to printing	7.2	6.5	58.3	55.3
Publishing	3.1	6.6	82.5	76.5
Recorded media mfg. and publishing	0.2	0.5	70.2	165.9
Basic chemical manufacturing	1.7	1.1	120.5	134.4
Other chemical product manufacturing	3.6	5.8	102.2	111.4
Rubber products	1.4	0.4	77.5	58.4
Plastic products	4.7	3.7	65.1	73.0
Motor vehicle and parts	8.8	1.8	106.1	59.2
Other transport equipment	3.0	3.2	57.5	87.5
Photographic and scientific equipment	1.2	1.4	98.1	68.0
Electronic equipment	1.7	3.3	71.6	72.3
Electrical equipment and appliance	3.1	4.9	64.8	57.9
Industrial machinery and equipment	4.7	5.5	59.3	63.3
Total technology-intensive ¹	45.3	45.6	78.9	75.8
For comparison:				
Total non-technology-intensive ²	54.4	53.8	67.0	72.5

Note: Without petroleum refining.

Source: Australian Bureau of Statistics, OECD calculations.

Potential, in terms of relatively high employment share or productivity growth, could derive from the sectors "Other Chemicals Manufacturing, Basic Chemical Manufacturing and Photographic and Scientific Equipment". All three are high-tech industries on which Victoria could build in the future. For instance, "Other Chemicals" manufacturing includes high-tech intensive industries like Medicinal and Pharmaceutical Product Manufacturing; Basic Chemical Manufacturing includes organic and inorganic industrial chemical manufacturing; and "Photographic and Scientific Equipment" includes all instruments that are needed for creating the necessary research and innovation infrastructure. High potential for overall productivity growth may additionally result from these industries since products of these industries might be used in other high-tech or high-growth industries, thus spurring the economy indirectly.

There are, however, two aspects which argue against too high expectations in this respect. Firstly, data on the sectoral specialisation and the respective productivity levels and growth rates concern 1999 and 2000. Having in mind the upward movement in growth per employment from the general economic performance in Victoria after a period of persistently

lower growth rates than in NSW, the favourable results might reflect a one-off response in performance. Secondly, despite potential towards specialisation in some high-tech industries in domestic production, the trade performance does not look as positive. This can be seen from the trade specialisation across industries – as measured by the so-called RCA-index, the revealed comparative advantage – and the intra-industrial specialisation – as measured by the so-called Grubel-Lloyd index – as given in the following table.¹²

According to the results in Table 4.3, Victoria demonstrates comparative advantages in crude materials, food and live animals and other commodities and transactions of merchandise trade (n.e.c.) – with real advantages as compared to NSW only in the latter two commodity groups. However, it does not show comparative advantages in industries like machinery and equipment or chemicals and related product manufacturing. There, the export-import ratio is even lower than the overall export-import ratio. This is not a very promising result, having in mind that the overall export-import ratio in Victoria is only about 60 per cent while it is almost balanced in Australia as a whole. And, while positive growth rates of the Victorian RCA in chemicals and related products may indicate a catching-up process in this industry, the negative rate in machinery and equipment may well indicate that it might lose its relatively positive position in this industry *vis-à-vis* NSW.

The weak relative position of rather high-tech or high growth industries as compared to other industries is not necessarily negative if there is strong intra-industrial trade with a tendency for exports to dominate imports. According to the results in Table 4.4, this is however not the case. Rather, the only industry where Victoria is gaining in intra-industry trade is crude materials – an industry where no strong potential for future productivity growth can be expected. Positive signs however show up to some degree for chemicals and related products. There, Victoria shows an almost equal position with New South Wales. And, the slightly negative growth might indicate a shift towards a more equilibrated trade balance, *i.e.*, towards exports growing *vis-à-vis* imports. There are, however, negative signs in machinery and equipment. There, imports are not only stronger than exports, but also the trade deficit is increasing more than the overall trade in this industry.

Taking all aspects into consideration, the prospects for further productivity growth due to a change in economic specialisation do not appear promising in Victoria. High-tech or high-growth industries do not have a strong role in international trade either. Although there is some potential in chemical products, machinery and equipment, as well as in some

Table 4.3. Revealed comparative advantage in international trade by commodity group, Victoria and NSW

	RCA 1999-00		Rate of change in RCA 1997/98-1999/00	
	Victoria	NSW	Victoria	NSW
Food and live animals chiefly for food	172.4	149.3	-0.6	5.9
Beverages and tobacco	82.4	83.9	0.7	96.1
Crude materials, inedible,	146.9	236.0	-17.6	6.8
Mineral fuels, lubricants, related materials	17.4	167.8	-77.6	-21.7
Animal and vegetable oils, fats and waxes	73.6	-17.0	-5.8	-166.9
Chemicals and related products	-64.4	-43.7	11.2	-46.6
Mfg. goods classified chiefly by material	-0.9	48.8	76.2	14.2
Machinery and transport equipment	-70.4	-152.8	-16.1	13.1
Miscellaneous manufactured articles	-107.2	-76.6	3.1	-34.2
Transactions of merchandise trade n.i.c.	140.1	125.9	49.6	34.1

Source: Australian Bureau of Statistics, OECD calculations.

Table 4.4. Intra-industrial trade by commodity group, Victoria And NSW

	Grubel-Lloyd 1999-00		Rate of change in Grubel-Lloyd	
	Victoria	NSW	Victoria	NSW
Food and live animals chiefly for food	46.93	72.93	-3.1	12.9
Beverages and tobacco	85.98	95.07	-3.2	8.1
Crude materials, inedible,	56.69	38.85	21.5	10.1
Mineral fuels, lubricants, related materials	81.81	64.62	-10.1	73.3
Animal and vegetable oils, fats and waxes	90.29	49.66	-0.4	-37.5
Chemicals and related products	46.80	40.36	-1.0	9.5
Mfg. Goods classified chiefly by material	73.16	77.88	3.1	-11.4
Machinery and transport equipment	44.70	15.66	16.0	-33.1
Miscellaneous manufactured articles	33.21	30.80	1.6	11.7
Transactions of merchandise trade n.i.c.	59.48	84.09	-28.4	-3.0
Total manufacturing	73.56	56.26	3.4	-16.9

Source: Australian Bureau of Statistics, OECD calculations.

services like health or transportation and communications services, these opportunities would have to be expanded further in order to fully exploit the advantages such industries could procure for overall economic growth in the future. Thus, Melbourne or Victoria will only be able to compete intra- and internationally if they either catch up in high-productivity service industries, or if the potential for productivity growth in the manufacturing industries can – also in the longer term – more than outweigh the low shares of high-growth service industries. Keeping in mind the productivity growth potential, and thus the overall positive economic effects of high-tech industries and ICT-related services, a persistently low share of these industries and services in the long-term would undermine the potential that these industries could develop in a metropolitan area like Melbourne.

Property Markets and Infrastructure

The empirical evidence for Melbourne concerning the strengths and weaknesses of Melbourne's supply and management of infrastructure shows a mixed picture. On the one hand, Melbourne has a well-functioning property market with competitive prices for property. Due to its reserves of brown coal, its energy prices are still very low as compared to other cities. And, until now it has managed to supply water at a high quality and at competitive prices. Melbourne is one of Australia's main transport hubs. Its seaport is Australia's main container port. The Tullamarine airport has a 24 hour curfew free status. And Melbourne has built up an extensive transport network which not only links places by road and rail within Melbourne metropolitan region, but also provides fast connections with other cities within Australia. And, Melbourne is endowed with a broad net of telecommunications infrastructure at competitive prices.

On the other hand, Melbourne faces several challenges concerning supply and especially management of infrastructure if it is to compete internationally in the future. Such challenges include, firstly, constrained capacity to supply energy, salinity problems, and supply of water constraints. Secondly, there is increased congestion on main roads combined with insufficient management of public transport, both resulting from and related to a high degree of car-dependency, but also a strong tendency to use the car purely from preference. Facilities to improve modal split are not yet well-elaborated, and interstate rail-connections are hindered by insufficient standardisation of rail gauge widths. With increasing interstate and international trade, there is now discussion about how to increase the capacity of the seaport. Finally, though internet is strongly used within the greater Metropolitan area, the accessibility and the utilisation of broadband is insufficient in the fringe and more rural areas. These points will be analysed in more detail below. Only the points related to firm location and

competitiveness are analysed, while negative impacts, for instance of an increase in water demand on the environment, are more extensively analysed in Chapter 6.

Property Market in Melbourne

Tables 4.5 and 4.6 provide information about the role of Melbourne as a competitive location with regard to the property market. This firstly shows up in relatively low prices for industrial land, low CBD rental prices, factory warehouse rentals as well as factory production costs as compared to other cities, especially competitor cities in the South East Asian region like Kuala Lumpur, Singapore, Bangkok and Osaka. Low CBD rentals may indicate a large supply of office space resulting from huge investment in recent years. However, it might also be a late result of the property crisis in the early 1990s. In the course of this development plenty of office space has been set free without being re-rented again. According to the Victorian Government (2000a, b) the low warehouse rentals may be due to the fact that the expansion of freeways and the ring road in the western part of Melbourne has opened up large new factory developments.

Table 4.5. **Property market in Melbourne – In USD per sqm**

	Industrial land costs ³	CBD prime rental ¹	Factory warehouse rentals ²	Factory construction costs
Kuala Lumpur	113.2 (4)	144.8 (1)	27.6 (1)	224 (1)
Bangkok	81.2 (3)		32.5 (2)	271 (3)
Seoul	140.5 (6)		119.0 (7)	248 (2)
Singapore	2 867.4 (9)	496.6 (4)	137.9 (8)	562 (6)
Osaka	974.8 (8)	593.2 (5)	305.0 (9)	848 (9)
Chicago	53.7 (2)		58.7 (4)	478 (5)
Dublin	121.1 (5)	418.7 (3)	95.3 (6)	826 (8)
Stuttgart	258.1 (7)		79.1 (5)	757 (7)
Melbourne	31.7 (1)	165.0 (2)	38.1 (3)	324 (4)

1. Costs are equal to annual average market rental and associated out-goings.

2. Annual average market rental and out-goings per square meter for manufacturing/factory warehouse accommodation with a floor area of 10 000-20 000 square meters and height of 7-8 meters.

3. Cost per square meter of a 15 000-20 000 square meter, industrial site located 20 km from a major airport or port in a serviced industrial estate or established industrial area; in the case of Singapore industrial land is represented by freehold land.

Source: CB Richard Ellis 1999, State Government of Victoria (2000b).

There are other reasons why a positive scenario maybe realised. This is first of all due to sound underlying fundamentals in Australia as well as in Victoria as mentioned above: relatively high growth rates, low inflation rates over the past ten years and low interest rates, all leading to increased demand for investment and office space. According to forecasts, the rent

spike is history, and rents should only increase at a lower rate than in the previous years. It is expected that the vacancy rate will further decline, from 5.1 per cent in 2001 to 3.1 per cent in 2003, but then increase again. In contrast, Sydney is forecast to show stronger pressures on rents from 2002 onwards resulting from limited new supply of office space.

Table 4.6. Office indicators in Melbourne and Sydney, 2001

	Melbourne		Sydney	
	CBD	Average	CBD	Average
Net face, in AUD per sqm pa	417	278	713	388
Historical annual change, in %	46.7	29	7.0	4.1
Forecast annual change, in %	6.3	3.6	3.2	-4
Capital value, in AUD/sqm	5 917	3 881	11 511	5 208
Annual change, in %	11.2	9.1	2.26	4.5
Indicative yield, in %	7.4	8.1	6.1	8
Total vacancy, in %	5.1	5.6	5.0	7.4

Source: CB Richard Ellis.

Energy Markets

Concerning the availability and the reliability of energy, Melbourne is a favourable place for firm location (Table 4.7). With regard to electricity and industrial gas costs Melbourne is ranked first (mainly due to the still abundant reserves of cheap brown coal within Victoria and the internal as well as interstate pipe-lines of natural gas). And although Australia is the driest inhabited continent, the prices for water are relatively low in Victoria. According to the Infrastructure Planning Council (IPC 2001) Melbourne is in a favourable position to draw water from three main sources, the Yarra, Thomson and Goulborn Basins, predominantly closed catchments with secure high-quality water.

Although Melbourne has a secure and reliable electricity system, the summer demand for electricity is exceeding Victoria's generation capacity. As a result a range of capacity additions and augmentations are required to meet this demand [*Infrastructure Planning Council* (IPC 2002)]. In response to growing peak summer electricity demand, the Victorian Government has undertaken significant work to attract investment in new generation and to reduce electricity demand. Currently 1 000 MW of new investment has taken place with further investment expected in peak power generation and improved transmission interconnection capacity between Victoria and NSW.

Table 4.7. Energy and water costs in Melbourne

	High voltage electricity cost – US cents/kWh ¹	Industrial gas cost – USD/Gigajoule ²	Water costs – USD/kL ³
Kuala Lumpur	4.74 (2)	3.12 (2)	0.26 (2)
Bangkok	6.10 (4)	5.32 (7)	0.27 (3)
Seoul	6.16 (5)	4.28 (5)	0.06 (1)
Singapore	5.07 (3)	7.30 (8)	0.87 (8)
Osaka	9.58 (9)	8.19 (9)	0.78 (7)
Chicago	7.69 (8)	4.10 (4)	0.28 (4)
Dublin	6.35 (6)	4.06 (3)	0.72 (6)
Stuttgart	7.14 (7)	5.21 (6)	2.20 (9)
Melbourne	3.62 (1)	2.35 (1)	0.44 (5)

1. The annual cost to a manufacturer who consumes approximately 450 000 kWh of high voltage electricity per month at the lowest published tariff.

2. The cost of gas per GJ based on an annual consumption of about 100 000 GJ (at the most favorable published tariff).

3. Water costs for manufacturers consuming around 300 000 kL of water per year (at the most favorable published tariff).

Source: State Government of Victoria (2000b).

In the face of increased energy demand, negative effects could arise in the near future with regard to Melbourne as an attractive and competitive location. The existing low energy prices will not be sustainable in the longer term and this could be a disincentive for firms to locate in Melbourne. Secondly, an additional fast and enormous increase in demand for reliable energy can be expected in the course of the introduction of modern energy-intensive information and telecommunications technologies. Without new energy sources, both traditional or especially renewable ones, the provision of energy might become unreliable. Furthermore with increasing demand, the already above average carbon-emission and other negative environmental effects would increase.¹³ Thus, the future need for new plants and renewable energy sources will have to be strongly linked to more efficient use of existing and newly supplied, especially renewable, energy sources.

Transportation Infrastructure in Melbourne

Concerning transport infrastructure, Melbourne is a competitive location both within Australia as well as with regard to international standards. According to information provided by the Victorian Government (2001a, b), firms greatly appreciate the network of modern arterial freeways and roads which enable short travel times as well as the good accessibility and connection to places within Victoria and to other states within Australia. Melbourne's role as a transportation hub within Australia is and will be mainly determined by the capacity and services that are provided by the seaport. Additionally, Melbourne firms value the services provided by

Melbourne airport at very low prices (Table 4.8). Melbourne Tullamarine airport is the only Australian airport with 24 hour operations. It provides services without disruptions or traffic delays. And, according to governmental studies, the capacity of Melbourne Airport will be sufficient to meet future demand. However, Table 4.8 stresses the existing and future importance of improved transportation management, both in terms of managing the supply and demand for transportation and communication infrastructure, as well as in terms of the underlying logistics, in order to sustain Melbourne's role as major transportation hub.

Concerning the structure of freight transported through Melbourne, the Tables 4.9 and 4.10 emphasise three main points: Firstly, as expected from the empirical studies of Victoria (2000a, b), Melbourne's competitiveness in transportation results mainly from its seaport. About one third of overall trade to and from Melbourne goes through the port. This is also reflected by the fact that about 26 per cent of overall trade to and from Melbourne is overseas trade, with freight shipped by air accounting only for a very small percentage of overall trade. The role of the airport is mainly for passenger transport (although freight transported by air might take on a more important role in the future in the course of a shift towards a service based economy). These figures date from 1996; thus, airfreight may have increased in importance during recent years.

Table 4.8. Transport infrastructure in Melbourne

	Travel time by car – CBD to airport in minutes	Airfreight rates in USD ¹	Sea freight rates in USD ²
Kuala Lumpur	70 (8)	136.5 (3)	375 (1)
Bangkok	90 (9)	150.9 (5)	700 (3)
Seoul	40 (6)	158.7 (6)	725 (4)
Singapore	30 (3)	183.9 (8)	375 (1)
Osaka	60 (7)	182.8 (7)	775 (5)
San Francisco	25 (2)	138.7 (4)	1 800 (9)
Dublin	30 (3)	125.3 (1)	1 650 (8)
Stuttgart	30 (3)	192.6 (9)	1 267 (7)
Melbourne	20 (1)	128.5 (2)	793 (6)

1. The rates reflect the aggregate cost of 25 kg of general cargo twice a week from each city to the four most distant other airports

2. The average tariff for shipping a 20 foot container of general cargo from the benchmark city to the four most distant other locations.

Source: Victoria.

Secondly, besides overseas trade the highest share of freight relates to short distances from Melbourne. According to Table 4.10, 44 per cent of freight to Melbourne comes from Victoria. And, almost the same amount of tonnes that arrive in Melbourne via the seaport is shipped further on via road

to Victoria and *vice versa*, while the other states – except New South Wales – are only to a limited degree origin or destination of freight to and from Melbourne. At first glance this might contradict the strong role of Melbourne as major freight transportation hub for Australia, but this could be explained by the fact that most freight is sourced or delivered from the port to a location where it is further manufactured or processed, repacked or re-loaded for its final destination.

Table 4.9. Freight movements from Melbourne in Ktonnes, 1995-1996

	Road	Rail	Sea	Air	Total	In %
Victoria	6 449	253	4	0	6 706	28.7
NSW	2 712	601	2 734	55	6 102	24.3
Queensland	1 136	287	337	12	1 772	7.0
South Australia	713	773	0	10	1 496	6.0
Western Australia	384	510	1	14	909	3.6
Tasmania	0	0	1 400	9	1 409	5.6
Northern Territory	55	19	0	0	74	0.3
Overseas	0	0	6 490	181	6 671	26.5
All origins	11 449	2 443	10 966	281	25 139	100.0
in % of total freight	45.6	9.7	43.6	1.1	100	

Source: Freight Task (FDF 2001).

Table 4.10. Freight movements to Melbourne in Ktonnes, 1995-1996

	Road	Rail	Sea	Air	All modes	In %
Victoria	12 908	2 295	3		15 206	44.4
NSW	2 532	1 591	1 251	47	5 421	15.8
Queensland	612	51	428	9	1 100	3.2
South Australia	910	1 054	830	7	2 801	8.2
Western Australia	485	127	1 298	7	1 917	5.6
Tasmania			1 709	10	1 719	5.0
Northern Territory	8	3			11	0.0
Overseas			6 985	79	6 044	17.7
All destinations	17 455	5 121	11 484	159	34 219	100.0
In % of total	51	15	33.5	0.5	100	

Source: Freight Task (FDF 2001).

Thirdly, most intra-Australian transportation takes place by road. Only about 10 per cent of overall freight to and 15 per cent from Melbourne is transported by rail. Furthermore, according to the Infrastructure Planning Council (IPC 2001) only 3 per cent of all trips are undertaken by rail, 2 per cent by bus and 1 per cent by tram.¹⁴ It can be argued that this high degree of car use purely reflects car-dependency, caused by the low

population density of Australian states and the trend of the last decade towards low-density housing in the fringe or rural areas. People are dependent on the car since in many areas there are no viable alternatives in form of a well-functioning and reliable public transport system. Additionally, interstate train connections are hindered by the fact that there is only limited standardisation of rail gauge width. The preference for car-use may however be additionally induced by government interventions to protect the domestic car manufacturing industry. Thus, the preference for cars has led to a huge and desired supply of road infrastructure, which in turn has rendered the provision of public transport unnecessary and results finally in the situation where people are dependent on the car.

Similar to the energy market, Melbourne may have to face severe challenges in transportation capacity and costs in the near future. Firstly, with the expected increase in overall transportation needs, constraints especially in road – and seaport capacity exist already or will emerge in the near future. Table 4.11 shows the future development of container load – the main element in overall freight transported through Melbourne. According to FDF (2000), three different scenarios of container load through Melbourne can be considered for the next 30 years. The base scenario forecasts an increase of container freight of about 200 per cent by 2030. A high scenario would be an increase of up to 360 per cent over the next 30 years.

Table 4.11. Container volume forecast, in ‘000 revenue tonnes

	Low		Base		High	
	Value	Change, in %	Value	Change, in %	Value	Change, in %
2000 (actual)	1 250		1 250		1 250	
2010	1 270	1.6	1 611	28.9	2 045	63.6
2020	1 466	17.3	2 355	88.4	3 397	171.8
2030	2 062	65.0	3 698	195.8	5 780	362.4

Source: Freight Task (FDF 2001).

Which of these scenarios will emerge as the most realistic depends on various factors influencing location, production and trade in the various industries. These include the economic situation, the spatial distribution of economic activity, the logistics system and technologies and the environment and safety settings in which the freight and logistics task is performed. The freight study bases its estimations on the following classes and their basic characteristics with regard to transportation and processing needs. These are derived from the actual industry structure and the existing role of Melbourne as transport hub:

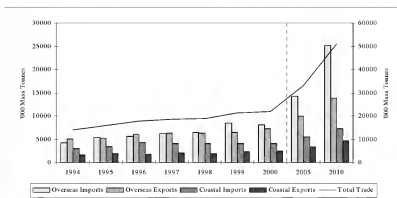
- *Foodstuff and consumables.* Both are targeted for the Victorian as well as for the Australian market with strong seasonal variations of freight. Consumables are heavily dependent on population growth and changing preferences. Transportation might increase with new forms of production and with change in the market structure of related services and retailing.
- *Crude construction and building material.* These goods are very transport intensive, create heavy loads, are locally dispersed depending on the places of demand and are often associated with significant disruption to road network operations.
- *Metals and manufacturing materials and products.* Metal products and manufacturing is about 12 per cent of overall manufacturing; one of the main industries in the Melbourne and Victorian economy, both in terms of domestic manufacturing and international trade (Table 2.4). Additionally, these products are main inputs for other manufacturing industries in Melbourne or Victoria. Thus, future freight and especially logistics needs might arise.
- *Motor vehicles and components.* This is an industry strongly represented in Melbourne, serving both the domestic but also international markets. Additionally, these products are highly transport- and logistics-intensive, with ever increasing need for in-time management instead of stocking materials and goods.
- *Paper and packaging, including recycled materials.* Here, the future freight task is expected to be high since Victoria is a main producer and exporter of packaging material. Concerning the packaging, the freight task is according to FDF (2000) predictable. This is however not the case for freight of recycled materials, neither the actual freight load nor the environmental burden since freight needs depend on various manufacturing industries, especially car manufacturing and machinery and equipment, but also main retailers.
- *Chemical materials and products.* According to FDF (2000) and the results in the tables on inter- and intra-industrial trade structure, this industry is increasingly concentrated on imports rather than exports and serving the domestic market. The freight task itself is characterised by attempts to develop a more cost-effective and environmentally safe transportation system.

- *Service sector task.* With regard to freight resulting from services, the freight task will be very difficult to manage in the future. This is due to the fact that the service sector embraces a very diverse spectrum of services with totally different market characteristics, input and material needs and output characteristics. Additionally, future freight task based on service industries might result indirectly from the increasing availability and use of information and communications services which make just-in-time as well as house-to-house delivery possible and preferred by consumers.

These considerations do not support the lower-level scenario. Especially, the seaport will face severe capacity constraints with increasing freight shipped to and from the port. In order to give a first rough picture of the future freight task through Melbourne port, the development of overall trade through the port of Melbourne is expressed in Figure 4.5 in terms of the actual tonnes load (not revenue tonnes). According to this, overall trade, *i.e.*, exports and imports from both overseas as well as inter-coast, increased by almost 8 per cent per annum on average between 1993-1994 and 1999-2000. Overseas imports have the biggest share, both in level as well as growth rate, followed by overseas exports. Imports from abroad have been growing by 12 per cent per annum as compared to 6.6 per cent per annum for exports abroad. For the future this means: If all trade categories grow at their average rate of the last 7 years, overall trade through the port of Melbourne will amount to about 33 Mio tonnes in 2005 and 50 Mio tonnes in 2010, *i.e.*, twice the actual freight load within the next ten years. Thereby, imports from abroad will amount to 14 (25) Mio tonnes in 2005 (2010), which would be almost twice the level of 2005 (or the level of almost four times by 2010 as high as the load in 2000).

The importance of the port as one of – if not the – most important transportation node for Melbourne could be affected by new naval technologies. Several major shipping lines recently introduced bigger and more cost-efficient ships which require a deeper draught in order to prevent extra costs of unloading and transportation on smaller ships into or from the port. It is unclear whether these larger ships will be used in Australia. If they are however, this would mean that the channel into Port Philip Bay would have to be dredged deeper lest important shipping lines bypass Melbourne in the future. Thus, new shipping technologies pose a dilemma for Melbourne. On the one hand, leaving the channel as it is would risk the position of Melbourne as a major international transportation hub. On the other hand, dredging the channel may have severe negative consequences for the environment of Port Philip Bay. There is also the risk that the channel would

Figure 4.5. Trends in trade through Melbourne port by sector



Note: The values for 2005 and 2010 are projections made on the basis of the average growth rate over the previous period.

Source: MPC (2001), OECD calculations.

be deepened unnecessarily in the case that larger ships are not used on the routes serving Melbourne.¹⁵

Land transportation to and from Melbourne seaport is increasingly difficult or costly due to congestion at the direct entry of the port. Freight into and out of the port is primarily transported on roads. Reloading the freight on to trucks or rail is done at a later stage. However, according to the IPC (2001), a partial shift from road to rail would not be sufficient to prevent or at least reduce congestion around the port significantly. This is due to the fact that – as has been seen from the tables above – most of the freight comes from or is directly delivered within 30 km of the port, before it is reloaded for its final destination.

Concerning the capacity of the road infrastructure, constraints arise primarily on the main freeways, interstate connections and especially the connections to the Tullamarine airport. According to the Infrastructure Planning Council (IPC 2001) the main projects of upgrading and extensions are: an outer ring road to be achieved by completing the Scoresby Freeway; the Eastern Freeway to the Airport and main regional freeways and highways such as the Western highway and the Princess highway connecting Melbourne and Geelong, one of the regional growth cities. Capacity constraints of the road infrastructure also arise with increased freight loads of trucks making it necessary to strengthen roads and in particular bridges. According to the IPC (2001) some regional bridges will

not be able to tolerate these heavier loads and this could in the medium term interrupt the connections between these areas and the distribution centres.

Concerning rail infrastructure and public transport in general, the situation is not very promising with regard to the future competitiveness of Melbourne. Only 3 per cent of trips are undertaken by rail and only 1 per cent by tram. Given the fact that the future freight and passenger load can not be handled solely on roads, the potential for improving competitiveness will be reduced unless there is an extension, modernisation and especially standardisation of the rail net as well as an improvement of the management of the rail and public transport system in order to enhance their timeliness and reliability. According to the IPC (2001) for instance, specific problems are capacity constraints at the city loop rail system and lack of rail-connections to the seaport. This underlines the need for further transportation centres for instance in the form of inland ports to process freight outside the main seaport area. Additionally, although there have been major improvements concerning the timeliness and reliability, the public transport system is not yet in line with high international standards.¹⁶

Information and Communications Infrastructure in Melbourne

Modern information and telecommunications technologies are increasingly important for the competitiveness of a metropolitan city like Melbourne. There is an integrated nation-wide broadband, especially optic fibre, network in Australia [ICP (2001)]. According to Cutler & Company (2001), Melbourne's Customer Access Network (CAN) is about 20.2 per cent of the net that is provided nationally by Telstra and 44.8 per cent of the net provided nation-wide by Optus World. Major ICT service firms are located in Melbourne combining leading edge hardware and software solutions [Victoria Government (2000b)]. And, besides the provision of broadband infrastructure and thus the access to the internet, Melbourne enjoys the comparative advantage of Australia's market for telecommunications services, including one of the highest mobile telephone penetration rates.

Indications for a broad supply of telecommunications infrastructure can be seen in the price developments for communications and information services shown in the following diagram. The development of the Consumer Price Index for communication services is shown in relation to the average price level of all goods. Thus, the price for information and communication services in Melbourne has been growing more slowly in comparison to other goods since 1990. To some degree this reflects the fast changes in technology within these modern technologies and thus the rapid decrease in prices for several high-tech goods like electronic equipment during recent years.

Figure 4.6. Consumer price Index for communication and telecommunications services



Source: Australian Bureau of Statistics, OECD-calculation.

What is however striking in the price development is the almost identical development for all metropolitan cities within Australia. This indicates one specific characteristic – and at the same time one main weakness – of the Australian telecommunications market, *i.e.*, the near monopoly of Telstra in this market. According to the results of Cutler and Co. (2001), the Melbourne market for communication is concentrated on Telstra and C&W Optus World, whereby Telstra's market share of the overall CAN network is about 90 per cent. However, the problem is not only the high concentration of market shares of the CAN network on one or two dominant firms. These dominant firms also act on the downstream markets, *i.e.*, the communications service market in Australia is still to a high degree vertically integrated. According to the ICP (2001, p. 44) "it is only since July 1999 that third-party operators have been allowed access Telstra's CAN". This could have several negative impacts that do not, or not directly, show up in the aggregate price development.

This situation could result in a lack of, or bad, access to the net, leading to an under-utilisation of the net and under-provision of new ICT infrastructure. Indeed, although the size of the information and communication net within inner Melbourne is satisfactory, the access to the net is not possible for everybody. This can be seen from the following table where the basic physical infrastructure and the main players in the Victorian ICT infrastructure market is presented. Instead of an equal access for everybody, the situation in the Melbourne metropolitan region indicates that services are focussed on high-rent activities like large business in the CBD or on heavy-traffic routes – at the cost of more regional areas. In general, the IPC (2001) emphasises that almost all carriers in Australia are focussing their services on the business sector rather than the residential sector. The Infrastructure Planning Council (IPC 2001, pp. 42) reports that the existing

CAN is only available within 4km from the exchange, and several businesses even within the Melbourne CBD, do not have access to low-cost and timely broadband despite "optic fibre cables running past their door".

Table 4.12. Summary of Victoria's ICT Infrastructure

Physical infrastructure	Main facility providers	Greater Melbourne coverage	Competitive developments
CUSTOMER ACCESS CAN			
Copper	Telstra	Ubiquitous	New entrants focused on DSL applications across Telstra's copper net.
HFC	Telstra C&W Optus AAPT UEComm MCI WorldCom	CBD, metro CBD, metro CBD, limited metro CBD fibre ring CBD fibre ring	Limited facilities based competition in relation to customer access outside of the central business district.
Digital Cellular	Telstra C&W Optus Vodafone Hutchison	Ubiquitous Ubiquitous Ubiquitous Expanding coverage	High value customer segments are beginning to move quickly to full market penetration.
3G Cellular	Telstra C&W Optus Vodafone Hutchison Qualcomm CKW Wireless	Any detailed rollout 3G strategies for individual operators have yet to be announced. Little indication of urgency for rapid rollout.	Licenses allocated in March 01. Significant advantage for those players with existing distribution channels and customer bases.
ISPs	228 ISPs	Comprehensive metro coverage	Continued expectation of consolidation within this market segment.
TRUNK BACKBONE			
Fibre Optic Cable	Telstra C&W Optus PowerTel NextGen Nava Networks Amcom VicTrack	Inter-capital, regional Inter-capital Inter-capital Inter-capital Mel-Per-Syd Mel-Per-Adl Inter-regional	Infrastructure over-build will continue to occur on routes where existing traffic is heaviest. Regional routes will remain under-served.
IP Wholesale	COMindico AAPT	Inter-capital, regional Regional	Emerging niche market and network model.
Microwave	Austar NTL Macrocom AARnet	Regional Mel-Can-Syd-Bne Regional Limited	Comparatively cheaper installation per unit of capacity than for fibre optic cable
Satellite	Telstra C&W Optus	Ubiquitous Ubiquitous	Constrained by pricing and technical limitations.

Source: Cutler and Company (2001).

Related to or even resulting directly from the low access to the net is the sub-optimal usage of the net. According to IPC (2001) for instance, many of the Australians who have access to the Internet, are still using dial-up connections instead of a broadband connection. In the view, of the Infrastructure Planning Council, this is due to a lack of information on the part of the consumers about the possibilities and the costs of services via broadband. In contrast, one could expect a much higher degree of usage if there were more competition on the downstream service market. Then several firms would provide services and would thus need to have access and use the existing network. This would lead to a better use of the net since these service providers again would create an incentive for the final consumer to exploit the net in order to have a higher "return" from their investment and the price that they pay for the services. In that sense, the service firms themselves would have an incentive to provide the final customers with the necessary information on how to use the net effectively. And, all stages would then benefit from learning-curve effects.

Finally, there are indications of insufficient upgrading of the underlying technologies. According to Cutler and Co. and the IPC (2001), Melbourne metropolitan region is well-endowed with ICT infrastructure in form of copper pairs that have been installed in the early years. However, with regard to fibre optics (broadband technology) which is again the precondition for fast and reliable flow of information and access to the Internet, the infrastructure would have to be improved. Concerning wireless solutions, neither the concentration nor the distribution across Melbourne metropolitan region is as limited as in the case of broadband. According to Cutler and Co., revenues from wireless solutions are more evenly distributed across several service providers that are licensed to operate competing networks. Nevertheless, in this market segment too, Telstra has, according to Cutler and Co., a market share of about 49 per cent of consumer subscribers and 59 per cent of business activity. And, 66 per cent of all cellular customers are located in urban areas of Victoria.

Taking everything together, Cutler and Co. draw a relatively sober picture with respect to the future situation of ICT within Melbourne metropolitan region. They estimate that Melbourne's communication landscape in the near future could be divided into two halves. While the inner city areas and inner Eastern areas might have sufficient access to broadband, the Northern and Western regions of the city would have, at most, access to narrowband and would have only insufficient access to 3G wireless solutions. The underlying conclusion is that there is a close correlation between the degree of economic and social opportunity and the future landscape in respect of the digital divide.¹⁷ Thus, the areas which might have a relatively good position in relation to the so-called "digital

divide" are several areas on the growth corridor from the Inner West via inner Melbourne to the South Eastern region. These are in particular, Knox, an area with a high number of activity centres, and areas like Stonnington and Boroondora, where some of the medical and other research precincts are located.¹⁸ Less positive is the situation for areas like Wyndham, Brimbank, Maribyrnong and Greater Dandenong.

Knowledge and Human Capital

Related to the investment in ICT-infrastructure and information services is the question of whether Melbourne is sufficiently endowed with human and knowledge capital. Both forms of capital are of increasing importance as location factors. Due to their direct and indirect effects on the level and growth of productivity, they are also becoming the main determinants for future competitiveness. Below, we analyse the role of human and knowledge capital for the long-term competitiveness of Melbourne. The potential for successful innovation will be analysed using R&D-expenditures and R&D-intensities as indicators for investment in knowledge capital. Concerning human capital, we will focus on indicators like schooling and university education. Additionally, we will go deeper into the effects of inter-state and international migration of human capital on Victoria's future competitiveness.

According to the results of the Victoria Government (2000a, b) and DOI (2001c, e) Victoria is taking the lead with regard to human and knowledge capital compared to other states within Australia. This may be due to the strong presence of universities, non-profit health research organisations and Commonwealth institutions. Accordingly, Victoria shows an above average share of the labour force with a tertiary or university degree and with a high proportion of employees in management and administration or other professional occupations as compared to other Australian states. And what makes Melbourne even more attractive for firms searching for extensive skills, and human and knowledge capital is the multicultural atmosphere and the multilingual workforce. While English is the official language, 45 per cent of Victoria's community has been born overseas or has at least one parent born overseas.

The attractiveness of Melbourne as the skills base within Australia is partly due to its strong performance in higher education compared to other states in Australia. Firstly, according to the results in the Tables 4.13 and 4.14, Victoria is characterised by a high incidence of universities – private as well as public. What makes Melbourne especially attractive not only for students but also for businesses, is the fact that several of these universities have a clear emphasis on providing business-relevant education

and research. This means that their formal education is specialised on specific disciplines and research fields. These range from a strong technology-orientation of universities like Swinburne University of Technology and Monash University to a concentration on fields related to firms located next to the university. For instance, RMIT sees its mission as providing education and doing research – with a strong focus on collaboration with businesses – in fields like Information Technology and E-Commerce, Advanced Manufacturing and Materials, Health Improvement through Biotechnology and Drug Technology Development, Environmental Sustainability, Entrepreneurship and Innovation. Latrobe University sees its mission in an innovative regional focus achieved through a network of rural campuses as well as a direct, on-campus interface with the community, industry and professions.

The desire to provide business-relevant research is additionally reflected in the increasing focus on commercialisation of intellectual property resulting from research that is undertaken by the universities of Melbourne themselves or in co-operation with other institutes or firms. The advantages of such a commercialisation are not only that the attractiveness of these universities increases – nationally as well as internationally. It also enables a flexible adjustment to changing skills needs and thus indirectly to economic changes. Melbourne University especially has implemented this approach during recent years. Until now, it seems to work: According to Ashenden (2001a) Melbourne University was elected the best Australian university in 2001. This is the result of a comprehensive study undertaken by the so-called “Good Universities Guide” in order to assess the international standing of Australian universities. However, commercialisation alone is not enough. Rather, the choice of Melbourne University as the top university in Australia is due to its high performance in a variety of aspects like research funding, publication output, attracting top students, recruiting top staff, offering most scholarships and leading a global consortium of major universities.

The attractiveness of Melbourne as a liveable place to study shows up in the student figures. According to the results in the previous tables, all Melbourne or Victorian universities have with 3.86 per cent of population and 7.6 per cent of labour force, a much higher proportion of students than universities in Sydney or New South Wales. Additionally, Victorian universities attract more students from abroad. This is especially the case for Monash University and RMIT which are both characterised by a very international orientation in education and research. However, NSW shows a higher percentage of postgraduates. Here again only Melbourne University can compete with a proportion of about 25 per cent of postgraduates. This might indicate that the research and education facilities in Melbourne

universities are not yet sufficient for postgraduate students. This might make it less attractive for those students to stay in Melbourne who might have the potential for high-skilled professions in universities or private sector after their degree.

Table 4.13. Students in Victorian universities

	All students			Postgraduates	
	Total	In % of total Victoria	Overseas in % of total	in % of total	Thereby overseas, in %
Deakin University	25 659	13.95	8.14	18.72	4.89
La Trobe University	20 873	11.35	7.82	19.05	11.52
Marcus Oldham College	94	0.05	0.00	0.00	0.00
Monash University	40 825	22.09	18.83	20.54	11.59
RMIT University	29 963	16.29	26.20	22.64	21.81
Swinburne University of Technology	11 741	6.39	12.81	23.00	18.37
The University of Melbourne	33 099	18.00	12.21	25.97	9.17
University of Ballarat	4 573	2.49	7.15	12.79	10.26
Victoria University	17 255	9.38	14.37	20.14	29.03
Total Victoria	183 882	100.00	14.97	21.35	13.96

Source: Victorian Department for Education (2001).

The empirical results in the following table show a strong focus on business administration and arts, humanities and social sciences. This distribution is favourable for attracting business to Melbourne due to the existence of trade and related skills. What speaks also in favour of Melbourne as a future skills and research base – especially in high-tech industries like photographic and research equipment or chemical manufacturing – is that the share of students in Science as well as Engineering and Surveying is higher in Victorian universities as compared to universities in New South Wales. However, the share of health related students is lower in Victoria than in New South Wales. This might counteract the future competitiveness of Melbourne in this field. The distribution of students across fields of study indicates the costs in the form of charges and fees that the students have to pay as compared to what they will earn in future. This shows up by comparing the proportion of students with the wages that are on average earned. Data on wages have only been available for non-managerial jobs in the respective fields. In contrast, very high wages can be earned in managerial jobs in business administration. This explains the high share of students in business administration.

Table 4.14. Students in New South Wales universities

	All students			Postgraduates	
	Total	In % of total NSW	Overseas in % of total	in % of total	thereby overseas, in %
Australian Film, TV and Radio School	94	0.04	0.00	87.23	0.00
Avondale College	656	0.30	7.32	7.77	11.76
Charles Sturt University	24 398	11.24	13.81	20.47	22.66
Macquarie University	20 212	9.31	10.03	28.37	21.15
National Institute of Dramatic Art	150	0.07	2.00	6.00	0.00
Southern Cross University	9 069	4.18	4.85	15.38	20.86
The University of New England	14 951	6.89	2.37	26.55	5.69
The University of New South Wales	29 676	13.68	18.68	32.73	22.30
The University of Newcastle	18 415	8.49	6.80	13.95	16.58
The University of Sydney	34 761	16.02	9.10	22.02	14.28
University of Technology Sydney	23 173	10.68	10.08	30.57	15.26
University of Western Sydney	29 107	13.41	9.23	14.43	17.36
University of Wollongong	12 335	5.68	16.68	22.79	33.12
Total New South Wales	216 997	100.00	10.73	23.16	18.49

Source: Victorian Department for Education (2001).

Table 4.15. Students by broad field of study

	In % of all students			Wages ¹
	Victoria	New South Wales	Australia	Australia
Agriculture, Animal Husbandry	1.10	1.90	1.68	597.7
Architecture, Building	2.36	2.38	2.25	1 010.0
Arts, Humanities and Social Sciences	24.93	24.70	24.43	1 094.3
Business, Administration, Economics	29.45	25.05	26.05	975.6
Education	7.91	9.90	10.54	934.6
Engineering, Surveying	9.33	6.67	7.37	1 072.3
Health	10.74	12.26	11.32	1 023.9
Law, Legal Studies	3.74	6.65	4.87	975.6
Science	18.79	14.00	16.17	1 010.0
Veterinary Science	0.18	0.25	0.26	
All students	100.00	100.00	100.00	

1. Average weekly earnings for professionals in AUD in related fields.

Source: Victorian Department for Education (2001).

However, although Melbourne seems to be a strong high-skills base within Australia, Australia is not the right point of reference. According to the Victorian Government (2000b) neither Melbourne, nor Victoria nor Australia is well above average in any indicator for higher education when compared to international standards. This is also the case for schooling. Public expenditure on primary and secondary education per capita is in Australia average as compared to other countries. And, while the enrolment in primary schools is above average, the enrolment in secondary schools is only average in Australia as compared to other countries. Victoria has moved from the lowest spending State per capita on education to the second highest State according to the Victorian Government (2001).

Concern for the future competitiveness of Melbourne and Victoria might be warranted if one looks at interstate and international migration, especially of professionals and university staff.¹⁹ On the one hand, there is a high proportion of presumably high-skilled long-term immigrants. Professionals and managers and administrators represent more than 30 per cent of all long-term immigrants to Australia, the highest share as compared to all occupations. The proportion of visiting managers and administrators might suggest that Australia is an attractive working place for qualified staff. However, the fact that more than half of these immigrants are residents might be seen in a positive way: it might reflect a movement back of Australian residents after having spent a long time for education purposes or work abroad. This would represent an inflow of international knowledge to Australia and thus might add to the human and knowledge capital within Australia.

On the other hand, the proportion of professionals and managers and administrators leaving Australia is even higher than that coming into Australia. This supports the result in ABS (2001a) that the main reason for Australians to leave Australia is in order to find a job. While the overall balance as measured by the migration ratio²⁰ presumes a net inflow of qualified staff, this net inflow is very low, especially in the case of professionals. Concern for the future skills base of Australia, and thus implicitly of Melbourne, might derive from the long-term emigration of Australian residents. First of all, about 70 per cent of all emigrating professionals and administrators are residents, while the share of more low-skilled residents leaving Australia is below average. Secondly, there is a net outward movement of qualified Australians as represented by net emigration as a ratio of total migration of this group of workers.

Despite indications of an international flow of highly skilled workers which in general would benefit the perception of Melbourne as a major skills base, empirical studies like Considine *et al.* (2001) and Ashenden

(2001) emphasise the long-term or even permanent emigration of Australian top researcher and university teachers. According to their argument the main reasons for university teachers leaving Australia results from high student-teacher ratios, low wages of university teachers and bad conditions to do research in Australian universities, especially as compared to renowned universities in the USA. In order to give some broad picture, in recent years, Australian academic professionals earned only about 65 per cent of the wages of their colleagues in the USA.

Table 4.16. Long-term migration of Australian residents per occupation, 1999-2000

	Arrivals		Departures		Migration ratio ¹	
	in % of all migrants	Residents in % per occupation	in % of all migrants	Residents in % per occupation	All migrants	Residents
Managers and administrators	9.9	32.8	8.8	69.0	0.21	-0.16
Professionals	22.5	53.0	26.2	71.6	0.08	-0.07
Associated professionals	5.3	50.0	6.5	58.3	0.05	-0.03
Trade persons and related workers	3.7	58.6	5.2	51.6	-0.01	0.05
Advanced clerical and service	1.8	68.1	2.1	68.7	0.08	0.08
Intermediate clerical and service	6.8	57.8	9.8	65.8	-0.03	-0.09
Intermediate prod. and transport	0.9	49.6	1.4	42.5	-0.09	-0.01
Elementary clerical and service	3.0	48.5	4.1	44.7	0.00	0.04
Laborers and related workers	0.8	45.5	1.7	32.9	-0.24	-0.08
Others and non-stated	0.6	19.9	0.3	48.9	0.48	0.08
Non-applicable	44.8	18.9	33.8	30.8	0.29	0.05
All migrants	100	36.0	100	52.8	0.15	-0.04

1. The ratio between net immigration and total migration (sum of departures and arrivals) per occupation.

Source: Australian Bureau of Statistics, OECD calculations.

Melbourne or Victoria's position as a research base is also unclear and this might hinder innovations. The empirical studies Victoria (2000a, b) and DOI (2000c) stress Melbourne's strong role in research as compared to other cities in Australia as one main determinant for its attractiveness and competitiveness in rather high-tech industries. According to these studies, Melbourne is the location of Australia's most important public and private

research establishments in a broad range of industries. These include food, paper and automotive products manufacturing, transport and electrical equipment manufacturing as well as more high-technology industries like chemicals, biotechnology and ICT services. As a consequence, Melbourne is home to several affiliates of big international players in high-tech industries that operate manufacturing facilities, R&D centres or regional support operations. These include IBM, Ericsson, Siemens, Nokia, Sun Microsystems, and Kodak to name only a few.

The comparatively good performance of Victoria as compared to other states in Australia can be seen concerning R&D-expenditures. According to the results in the Table 4.18, Victoria has an above average R&D-intensity with a high share and growth rate of business R&D as compared to other states within Australia. However, an R&D intensity of 1.72 is still below or at the OECD average.

Table 4.17. Australian academic salary as proportion of US salary

	Professor In %	Level C In %	Level B In %
1979-1980	90.9	87.2	86.0
1989-1990	85.1	83.7	80.9
1999-2000	85.1	85.1	84.3

Source: Considine *et al.* (2001).

Table 4.18. Overall R&D expenditures 1998-99

	Victoria	New South Wales	Australia
Total expenditures			
In 1 000 AUD	2 593	2 662	8 850
In per cent of GDP	1.72	1.25	1.49
As a share of total R&D			
Business	55.33	49.92	45.10
Government			
Commonwealth	12.13	8.80	13.48
State	6.26	9.38	9.93
Higher education	21.49	30.38	29.41
Private non-profit	4.79	1.51	2.08

Source: Australian Bureau of Statistics, OECD calculations.

Victoria shows a remarkable share of business R&D as compared to other states in Australia (Table 4.19). And, in Victoria the share of government R&D as well as R&D in private non-profit institutions is higher

than in the other states. In contrast to this, the share of R&D that is undertaken in higher education institutions is much lower than in the other states. It is unclear whether these results indicate or not a strong role in research. A high share of business R&D at lower rates of R&D performed by government might speak in favour of a real innovative culture of Victorian firms. Furthermore, the high share of business R&D and of R&D in non-profit organisations might indicate a close mutually beneficial relationship between business and research institutes as was already indicated by the specialisation of some Victorian universities on regional and business relevant education and research. Also the lower rate of higher education might not be negative. This is especially the case since the proportion of R&D in non-profit institutions might indicate that some of the typically basic research undertaken in universities has been transferred or to some degree outsourced to specialised research institutes.

However, the lower rate of university research might support the view that, as a result of privatisation and the increasing commercialisation process in Australian universities, the role of universities as a provider of basic research might be being undermined. This could have severe negative consequences for the future competitiveness of Melbourne. In the extreme case this could lead to the situation where R&D in Melbourne affiliates of international firms would only be undertaken in order to incrementally adjust products or technologies to the specific needs of the regional market rather than to launch really new products or technologies on the market. To the extent that there were no technological spillovers due to spin-offs or in the form of co-operation with regional firms and research institutes, the potential that Melbourne has would not be fully exploited.

Table 4.19. R&D-expenditure per sector 1998-99

	Victoria In % of total	New South Wales In % of total	Australia In % of total
Business	55.3	49.9	45.1
Government			
Commonwealth	12.1	8.8	13.5
State	6.3	9.4	9.9
Higher education	21.5	30.4	29.4
Private non-profit	4.8	1.5	2.1
Total	100.0	100.0	100.0

Source: Australian Bureau of Statistics, OECD calculations.

Table 4.20. R&D-intensities in Victorian manufacturing

	Victoria	New South Wales	Australia
Food, beverages and tobacco	0.38	0.60	0.41
Textiles, clothing, footwear and leather	0.20	0.16	0.20
Wood and paper products	1.21	0.52	0.73
Printing, publishing and recorded media	0.30	0.09	0.16
Petroleum, coal, chemical and assoc. products	1.28	1.03	1.01
Non-metallic mineral product	0.39	0.77	0.55
Metal product	0.68	0.55	0.69
Motor vehicle and other transport equipment	2.34	1.05	1.71
Photographic and scientific equipment	3.43	6.41	5.14
Electronic, electrical equipment and appliances	2.07	4.31	3.27
Industrial machinery and equipment	1.45	1.67	1.36
Total manufacturing	1.03	0.99	0.90

Source: Australian Bureau of Statistics, OECD calculations.

Additionally, the distribution of R&D across industries – as shown in the following table – is not so favourable for a strong position in research. The relatively high R&D intensities in motor vehicle and other transport equipment, in Electronic, Electrical Equipment and Appliances as well as in Photographic and Scientific Equipment, are positive, ranging from 2 to 3.4 per cent. Less favourable, but still above average are the intensities in Petroleum, Coal, Chemical and Associated Products as well as in Industrial Machinery and Equipment. However, the R&D intensities in most of these industries are still much higher in New South Wales than in Victoria. This is especially negative since these industries also have a higher share of overall employment in NSW than in Victoria. A persistently low share of these industries in the future as well as lower R&D intensities might prevent Victoria from catching up also in the longer term.

Thus, taking everything into account, Melbourne has some potential to lead in Australia in regard to skills and research. Especially, the strong incidence of knowledge and human capital that has been built up within or in co-operation with business might spur the future attractiveness of Melbourne as an innovative location and might spur future productivity. One additional reason why Melbourne might have the potential for a strong position in R&D in the future is the effectiveness of intellectual property right protection within Australia – as indicated in the following diagram. Within the WCYS (1999), firms felt that their firm-specific knowledge is

very satisfactorily protected through the Australian mechanisms (Figure 4.7). With an index value of 8.59 it is ranked on the second position, directly after Germany, with 8.74 and ahead of USA with 8.29. In a world where knowledge is increasingly important and knowledge management is one main strategic elements in the production process, this result is not to be underestimated. This is even more the case since – according to several empirical results – lack of effective protection is one of the main obstacles to innovation.

Figure 4.7. Protection of intellectual property rights in selected countries



Source: *World Competitiveness Yearbook*, 1999.

However, as is the case concerning industry structure, Melbourne cannot afford to be complacent. Although Melbourne itself is above average in human and knowledge capital within Australia, Australia is not the right point of reference. Thus, Melbourne has to, and should, build upon its competencies in order to create a position in human and knowledge capital that is comparable to the highest international standards.

Internal and External Economies of Scale

Having in mind the positive role of entrepreneurs in spurring efficiency, enhancing competition, and increasing growth inducing innovation activity of the economy, a persistently small firms size structure with limited potential for growth together with low entrepreneurship could act as a brake on future competitiveness. In what follows, the firm and markets structure will be analysed. According to the theoretical considerations, especially in metropolitan regions like Melbourne there may however be external economies from agglomeration and localisation of industries. Besides their general positive impact on competitiveness, these external economies of

scale may outweigh market failures due to small firm size. We will thus analyse whether there are indications for such external effects and for external economies of scale.

Firm Size and Market Structure

The existing empirical material suggests the existence of market failures due to the small firm size structure in Melbourne, rather than a lack of entrepreneurial culture which has been assumed to be one of the main weaknesses in Melbourne by DOI (2000c). Although Australia has a rather business friendly regulatory environment which could favour easy entry and growth of firms, empirical observations have shown that most Australian industries are characterised by a strong and persistent concentration in the form of a few firms dominating the whole industry. Thus, entry and survival of firms may be extremely difficult. And, the Victorian economy shows a below average export performance indicating that Victorian firms are active in small local markets with low potential for increasing market size. This strengthens the market power of dominant incumbents which again lowers the probability for successful market entry and growth of small firms – in addition to the general problems these firms face. This issue will be addressed more thoroughly below.

According to the results in Tables 4.21 and 4.22 Melbourne Metropolitan Region is characterised by a firm size structure that is skewed towards small and medium-sized firms. Almost 70 per cent of all companies have less than (and only about 30 per cent more than) 200 employees while the reverse ratio is true for some European countries such as Germany. This small firm size structure is even more pronounced if one takes employment per location as the indicator. There, more than 90 per cent of all firms have less than 20 employees and only 1 per cent more than 100 employees. The firm size distribution is less skewed towards very small firms if only the Melbourne Central Business District is considered. This reflects the expectations of Melbourne CBD as the most agglomerated area in Greater Melbourne and hence the area with the highest share of employment. Nevertheless, if one compares with other countries this small firm size structure has to be seen as one of the main weaknesses in the Melbourne economy.²¹

It can be argued that these figures are only very rough and should not be interpreted in a too negative way – especially since they reflect the firm size distribution across all industries and thus include also agricultural, basic services, small retailers and handicrafts firms which in general have very few employees. In contrast, the largest average firm size in the whole economy is in education and government institutions – both industries which

together represent almost 20 per cent of overall employment. This indicates that firms in the other industries must be even much smaller in order for this overall average to result.

Table 4.21. Firm size distribution in Victoria¹

Firms with	1983-1984		1989-1999		For comparison: West-Germany 1998 ²	
	In %	Cum %	In %	Cum %	In %	Cum %
0-4 employees	11		13			
5-19 employees	21	32	23	36	5.1 ³	5.1
20-99 employees	23	54	24	60	18.8	23.9
100-199 employees	9	63	9	69	12.9	36.8
> 200 employees	36	100	31	100	63.2	100

1. Share of Employment by *Employer Business Size* for Victoria.

2. Manufacturing.

3. 1-19 employees, numbers may not add up to 100 due to rounding.

Source: SBTRC 2001, ABS, German Statistical Office.

Also the average firm size within manufacturing is with 16 employees per firm location relatively small – as can be seen from Table 4.24. Especially noteworthy is the above average firm size, and related to it the relatively high standard deviations in Food, Beverages and Tobacco Manufacturing, in Petroleum, Chemical and Rubber Manufacturing as well as in Machinery and Equipment Manufacturing which might indicate the existence of some big players. Additionally, relatively high values for the Kurtosis – the distribution measure – in Wood, Paper Products and Printing, in Food, Beverage and Tobacco Manufacturing and in Machinery and Equipment Manufacturing suggest that there may be some outliers in the form of medium or big firm size. However, the number of firms with more than 500 employees, which would represent the large firm-size group in other industrial countries, cannot be very high. Otherwise the average would be much higher.

Table 4.22. Firm size distribution in Melbourne Metropolitan Region and CBD¹

Firms with	Melbourne Region		Melbourne CBD	
	Firm number per size group	in % of total	Firm number per size group	In % of total
0-4 employees	128 321	72.6	8 163	60.3
5-9 employees	25 293	86.9	2 385	77.9
10-19 employees	11 479	93.4	1 272	87.3
20-49 employees	7 015	97.4	923	94.1
49-99 employees	2 478	98.8	367	96.8
> 100 employees	1 975	100.0	425	100.0
Total	176 755	100.0	13 535	100.0

1. Employment per location.

Source: ABS-Victorian Yearbook 2001, OECD calculations.

Table 4.23. Average firm size per industry in Melbourne Metropolitan Region – Broad sectors

	Employment per location		
	Average	Std deviation	Kurtosis ^{1, 2}
Mining	3	3.21	6.32
Manufacturing (Mfg)	16	8.38	1.90
Construction	4	2.79	18.88
Retail trade	7	1.06	-1.08
Accommodation, restaurants	11	2.94	4.77
Transport and storage services	6	4.30	3.10
Communication services	15	20.32	22.33
Finance and insurance	6	4.62	24.54
Property and business services	5	2.16	10.15
Government and defence	50	26.93	0.74
Education	23	10.54	6.71
Health and community services	9	2.83	-0.39
Personal and other services	5	2.24	9.31
Total	11	5.03	6.72

1. Employment per location.

2. Measures the distribution of the firm size across all regions: the smaller the value, the more equal is firm size distributed. High values indicate few local government areas with relatively high average firm size.

Source: Australian Bureau of Statistics, OECD calculations.

This small firm-size structure is not necessarily a problem. It may reflect a very open market and suggest that entrepreneurs fulfil their role of spurring competition and, with this, productivity enhancing activities like innovation. The stronger R&D in Victoria than in other states in Australia might support this presumption. Additionally, it might reflect a high degree of specialisation. However, in the case of Melbourne or Australia, small firm size structure is accompanied by a persistently high degree of concentration within Australian industries.²³ In that sense, the problem of the small firm size is not lack of entry and thus a low entrepreneurial culture – as has been assumed in (DOI 2001a, b). Rather, the problem is the lack of a critical mass that would enable firms to compete with the big players in international markets. Lack of such a critical mass however might explain additional weaknesses in Melbourne's competitiveness like relatively low – albeit growing – exports as well as relatively low innovation as compared to international standards. Thus, although this firm size structure might be to some degree nation-wide, and thus might not be a reason for differences in productivity growth between states, a continuously small firm size structure with at the same time a high concentration of industries might undermine potential for productivity growth in the future.

Table 4.24. Average firm size per industry in Melbourne Metropolitan Region manufacturing industries

	Employment per location		
	Average	Std deviation	Kurtosis ¹
Food, beverage and tobacco mfg	32	29.66	4.30
Textile, clothing and leather mfg	10	5.57	-0.27
Wood, paper products, printing	12	9.92	6.96
Printing and publishing	11	6.38	2.75
Petroleum, chemical and rubber mfg	26	20.13	1.08
Non-metallic mineral product mfg	12	11.14	3.20
Metal product mfg	14	8.26	0.85
Machinery and equipment mfg	21	19.48	3.22
Total manufacturing	16	8.38	1.90

1. Measures the distribution of the firm size across all regions: the smaller the value, the more equal is firm size distributed. High values indicate few local government areas with relatively high average firm size.

Source: Australian Bureau of Statistics, OECD calculations.

Agglomeration and Localisation of Industries

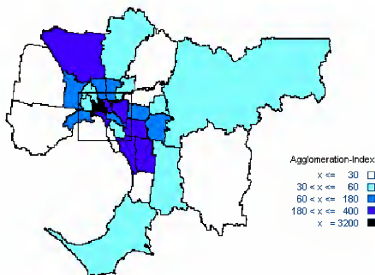
Keeping in mind the small firm size structure in Melbourne, low levels and growth of productivity may be due to the fact that firms cannot exploit economies of scale. This may not be a problem; a lack of internal economies of scale can be compensated by clustering and networking, *i.e.*, by horizontal and vertical co-operation, most of all in the form of regional networks with long term contracts. Below we will analyse the degree of agglomeration and localisation of industries in Melbourne. In order to estimate agglomeration and localisation of industries, we use an indicator that is related to the relative Herfindahl-Index as it is used for instance in Henderson (1999). According to this indicator, agglomeration of industries occurs if one area within Melbourne shows a higher employment share of one or more industries than is the case for the overall Melbourne metropolitan region. Localisation in contrast occurs if one industry locates mainly in one area within Melbourne and is not evenly distributed across the entire Melbourne metropolitan region. The crucial point is the fact that we take into account whether these co-locating industries are related to each other. It comes thus very close to the theoretical meaning of agglomeration or especially of localisation of inter-related industries. Thereby, the degree of relevance of one industry for another is measured by the help of Input-Output-Analysis. The so-called inverse Input-Output-coefficient tells us how many units of input are needed of one industry to produce one production unit of another one.²³

According to the results in Figure 4.8, there are some indications of agglomeration economies within Melbourne metropolitan region. As expected firstly, especially Melbourne Central Business District (CBD) shows a high degree of agglomeration. What supports the existence of external economies of scale due to agglomeration, is the fact that there are lots of industries located in the CBD that are related to each other, resulting in some form of a service hub of Melbourne. As shown later, these are especially financial and property market services, together with wholesale and retail trade. And, the CBD is the centre of the government administration and the headquarters of various telecommunication and business service firms.

Secondly, what underlines the importance of basic infrastructure and telecommunication is the fact that the main diagonal – as sketched previously in the infrastructure-chapter – shows up again in this map. This is in particular the diagonal line from the middle South-Eastern to the North-Western part of Melbourne, *i.e.*, from Greater Dandenong and Kingston, via Boroondara and Yarra, up to Moreland and Mooney Valley and eventually leading into Hume.²⁴ Finally, the importance of the transport hub of Melbourne shows up in the location pattern within Melbourne metropolitan region. It is close to the ports of Hobson's Bay and Port Phillip, where industries locate that are related to transport and storage or are producing the raw materials and the goods that are traded through the port of Melbourne. And in accordance with the regional distribution of modern ICT-infrastructure, there are also no indications for agglomeration in rather vulnerable areas like Melton and Werribee, which is part of or close to Wyndham, at the Western or South-Western part of Melbourne metropolitan region as well as Frankston, the Southern East of Melbourne.

However, there are no clear indications for an existing or potential co-operation between universities and firms in the sense of some Silicon-Valley-type of economic clustering. On the one hand, agglomeration is prevalent in Monash, Melbourne and Boroondara. These are places where main universities and precincts are located: *i.e.*, Monash University and Monash Medical precinct in Monash, Parkville Medical, Educational and R&D-Precinct of RMIT and Melbourne university as well as Alfred Medical Precinct in Melbourne, and RMIT and Latrobe University as well as the Austin Research Precinct in Boroondara. On the other hand, there is no agglomeration to be seen near the Werribee Animal and Food Research Precinct in Wyndham.

Figure 4.8. Agglomeration in Melbourne Metropolitan Region



Source: ABS, unpublished data, OECD calculations.

Concerning the question of localisation of industries, especially in the sense of Silicon-Valley-type high-tech clusters the picture is unclear (Table 4.25). Industries that strongly locate close to each other are machinery and equipment manufacturing, wholesale and retail trade, transport and storage services, property and business services, as well as health and recreational services. Less pronounced is localisation of the industries food, beverage and tobacco manufacturing, textile and clothing manufacturing, construction and finance and insurance. Thus, especially with regard to the concentration of business related services within Melbourne and with regard to the transport related services, the area within Melbourne or close to the ports is best suited. What is astonishing however, is the fact that there is no localisation of wholesale and retail trading within the CBD. Instead, it would seem that the activity centres in the outer fringe areas have already weakened somewhat the former strong role in retail trade of the CBD.

Table 4.25. Localisation of industries in Melbourne Metropolitan Region

	Localisation-Index ¹	LGA with highest localization ²
Agriculture, forestry and fishing	16.41	dispersed
Mining	5.82	dispersed
Food, beverage and tobacco mfg	64.67	Cardinia, Hobson's Bay
Textile, clothing and leather mfg	102.02	Darebin, Maribynong, Moreland,
Wood, paper product mfg, printing	37.63	Kingston, Whitehorse
Petroleum, chemical and rubber product mfg	72.80	Hobson's Bay, Kingston
Non-metallic mineral product mfg	14.04	dispersed
Metal product manufacturing	35.45	dispersed
Machinery and equipment manufacturing	153.37	Hobson's Bay, Hume, Monash,
Other manufacturing	30.85	dispersed
Electricity, gas and water supply	4.29	dispersed
Construction	68.35	Manningham, Nillumbik,
Wholesale and retail trade	102.70	Casey, Knox, Manningham
Accommodation, cafes and restaurants	31.80	dispersed
Transport and storage services	91.41	Hume, Port Phillip
Communication services	14.92	dispersed
Finance and insurance	58.94	Melbourne
Property and business services	132.16	Boroondara, Melbourne, Port Phillip,
Government administration and defence	29.62	Melbourne
Education	23.35	dispersed
Health, social and recreational services	89.79	Banyule, Stonnington
Personal and other services	6.63	dispersed

1. Squared deviation of one industry's employment share within one LGA from its employment share within overall Melbourne Region, indicator: Stdev – Shading according to the rank of the localisation index over all industries, with the dark shading representing the 25% highest degree of concentration.

2. Areas with the three highest values of the localisation index.

Source: Australian Bureau of Statistics, (1998), OECD calculations.

There are some indications of some form of high-tech clustering: For instance, manufacturing equipment, which also comprises high-tech industries like electronics and automotive manufacturing, is concentrated in Monash and to a lesser extent in Moreland. This is also the case for health and recreational services which are concentrated in Stonnington and to some extent in Boroondara. However, whether this is mere coincidence or whether there is already ongoing co-operation between firms and universities can not yet be confirmed.

External Effects from Clustering in Melbourne?

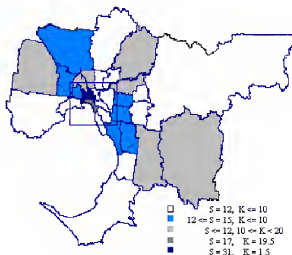
The results of the study provide some empirical indications of positive external effects from agglomeration in the form of better firm performance and thus some indications for clustering and co-operation. Unfortunately, data on performance indicators like productivity or turnover were not

available. However, the regional distribution of firm sizes across local government areas might give some indirect empirical evidence (Figure 4.9). Larger firm size might indicate a better performance of the respective firms. It might be the result of a stronger productivity and thus income growth in recent years which again enabled firms to expand. It can not certainly be interpreted as a direct effect. Such a clear statement is not possible since we only have observations of one year. However, taking into account that agglomeration and localisation of industries is a rather long-term process, both, the maps on agglomeration and of the regional distribution of firm sizes can be seen as the result of this long-term process.

Comparing the regional distribution of firm-size and agglomeration across Melbourne metropolitan region, there is some indication of correlation between agglomeration and firm performance. For instance, some areas with very high agglomeration show a relatively high share of medium-sized and big firms. This is especially the case for Melbourne CBD and Port Phillip in the inner suburbs. This is also true for Hume and Brimbank in the North-West and Whitehorse, Monash, Kingston and Greater Dandenong in the Central-Eastern part of the above so-called "agglomeration-diagonal". Here, one has to take into account that agglomeration itself can not be seen as the single key factor. For instance, the CBD is the place where the big financial services, their local or interregional headquarters, and main governmental departments are located. These are generally characterised by larger firm size. Additionally, previous results have shown that Monash is a place where machinery and equipment manufacturing firms are located. Also firms in these industries might be characterised by a larger firm size in terms of employment per location, as was seen in previous tables.

What however supports the hypothesis that external economies of scale in form of agglomeration and transaction cost advantages might compensate for the small firm size, is the fact that the correlation is valid also in the other direction. Areas with only a low degree of agglomeration (up to 60 index points) are also characterised by mostly small firms, *i.e.*, where either all firms are relatively small or where there are only few medium or large-sized firms ($S = 12$, $K \leq 10$ or ≤ 20). This is especially true for the centre fringe areas Wyndham and Melton in the West, like Yarra Ranges in the Northern East, Whittlesea and Nillumbik in the North and Cardinia, Casey and Mornington Peninsula in the South East. It is only for Hobson's Bay, Darebin, Yarra and Boroondara that no correlation between agglomeration and firm-size structure can be observed.

Figure 4.9. Firm size distribution in Melbourne Metropolitan Region



Source: ABS, unpublished data, OECD calculations.

Doing Business in Melbourne – Results of a Firm Survey

In order to analyse the environment in which Melbourne firms do business and in order to fill the gap in the availability of data on specific issues, a survey was made of manufacturers and business service providers in Melbourne. In order to guarantee an appropriate selection of companies and a high response rate, the OECD asked SGS Economics and Planning Pty Ltd (SGS) to help design and administer the survey. The survey aimed to ensure as high as possible a participation rate of companies, but also the delivery of broad information in order to analyse the missing data appropriately. This was achieved by two methods: on the one hand the questionnaire was set up by the OECD and refined through a pilot survey undertaken by SGS, and on the other hand a representative list of companies was selected by SGS in consultation with OECD.

The data set comprises 82 manufacturers and service providers, which with regard to industry – and firm size structure are relatively

representative.²⁵ The survey data allow an appropriate analysis of firm performance according to different locations within Melbourne which is achieved by an almost equal number of firms in the five main areas Central, Northern, Eastern, South-Eastern and Western Melbourne. However, due to the overall small number of companies, it was not possible to draw generalised results. Although the responses seem to be relatively reliable and according to the expectations, the resulting conclusions should be seen as indications and not be interpreted as being valid for overall Melbourne.

The results from the survey support in general the results from the previous rather aggregate analysis. Below, we will concentrate on four main issues that were not sufficiently analysed before. These are an assessment of the main obstacles for the establishment and the expansion of firms, the outward orientation, as well as the innovation and networking activity of businesses in Melbourne. This information allows us then to draw conclusions with regard to the future potential for productivity growth in Melbourne as well as for the question how – if any – policy should be designed.

Establishment and Expansion

The following diagram supports the view that the problem in Melbourne is not entrepreneurship but rather the firm growth required in order to build up the critical mass necessary for innovation and exports. While on average about 15 per cent of all firms said that they had faced obstacles in setting up their firm, about 30 per cent of all firms on average complained about obstacles to further expand their firm. For most firms, the main obstacles for expansion were lack of or expensive qualified staff, insufficient demand, and/or high tax burdens, whereas it is internal or external finance and a high degree of uncertainty which pose the main obstacles for setting up a firm. In contrast, only very few firms mentioned difficult or expensive access to ICT or other up-to-date-technologies or the research infrastructure as main obstacle either for setting up a firm or for its expansion.

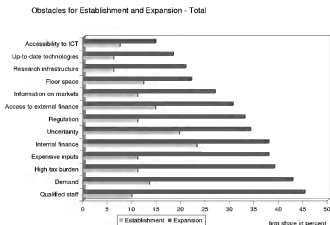
These results indicate that until now, policies, especially the ones aimed at supporting start-ups and entrepreneurship, seem to work well, although they have not yet eliminated the problems small firms are facing. However, the fact that firms perceive the tax burden as an obstacle for growth and not so much for setting up a firm has to be stressed – especially in light of the fact that these responses were collected after the introduction of the business tax reform.

Additionally, the results indicate some room for improvement of the information flow among firms at different levels of the value chain,

especially with regard to financial and the final customer market. This shows up in the perception of insufficient demand as obstacle for firm growth and in the fact that a high degree of uncertainty and insufficient information on supplier and customer markets are reported as main obstacles for setting up a firm. Insufficient information to financial service providers may also be an explanation for the fact that lack of access to external finances is seen as main obstacle for setting up a firm. And, it is consistent also with further responses concerning main challenges for future production, innovation and networking as will be described below.

What is surprising though is the fact that access to modern information and telecommunications technologies was not reported by many firms a main obstacle either for setting up or for expanding the firm. Further responses indicate however that this result has to be interpreted in view of a lack of awareness of the benefits from ICT and which would explain the relatively low demand for and use of such technologies. This interpretation results mainly from the fact that firms have not greatly introduced modern ICT as will be described below, but that firms who are intending to, or are trying to increase their innovation activity, complain about too expensive access to ICT.

Figure 4.10. Obstacles for firm establishment and expansion



Source: OECD/SGS-survey, OECD calculations.

Outward Orientation

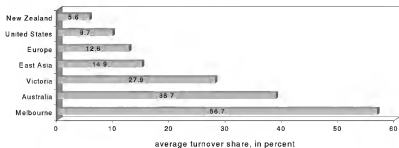
As expected, and as indicated above, the following diagrams suggest a relatively weak outward orientation of Melbourne firms. This shows up in the high share of turnover on customer and input markets in Melbourne, Victoria or Australia. In contrast, only a very low average share of turnover is due to exports to East Asia, United States, Europe and New Zealand.²⁶ Moreover, a high share of firms state that their main competitors are located within Australia. Both results together indicate that Melbourne firms mainly use competitors within Melbourne or Australia as benchmark for business performance. They are thus not (yet) fully involved in international competition.

What is surprising at first sight is the result that Australia and not Victoria is in second position concerning the main customer markets and the location of main competitors. This would seem to counteract the argument made previously according to which the lion's share of goods are shipped within Victoria. Two aspects have to be taken into account though: Firstly, the low turnover share sold to markets within Victoria other than Melbourne might be explained by the strong role of Melbourne within Victoria. With Melbourne contributing to about 70 to 80 per cent of overall manufacturing turnover of Victoria there is thus only limited room for markets within the rest of Victoria – especially concerning manufacturing and main business or financial services which have been the focus of this survey. Secondly, what was asked here was where the main (final) customer markets are located. This does not preclude goods being shipped first within Victoria for handling and then transported to the final destination.

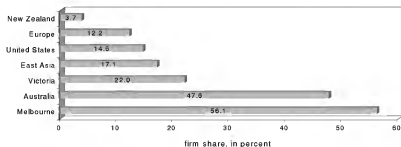
Finally with regard to the input markets, the results from the survey support the view that the high degree of imports as compared to exports is not fully explained by the fact that Melbourne is one of the main transport hubs within Australia. Rather, the low export-import-ratio on aggregate figures is also reflected in the responses on the main customer and input markets: while the respondent Melbourne firms receive a relatively high share of their inputs from the United States or Europe, these regions are not main customer markets. And, the fact that Melbourne firms to a high degree use goods from abroad, *i.e.*, East Asia but also Europe and the United States, indicates that imports from abroad are not necessarily transported further to other destinations within Australia, but are also destined for the Melbourne market itself.

Figure 4.11. Outward orientation

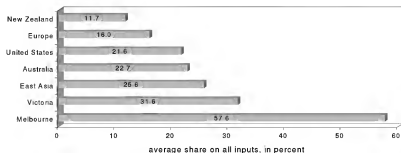
Customer markets



Competitors



Input markets



Source: OECD/SGS-survey, OECD calculations.

Innovation

The results from the survey support in general the view that Melbourne is a good place for research and innovation. About 55 per cent of all firms introduced product innovations between 1999 and 2001 (see Table 4.26). These firms indicated that on average about 40 per cent of the increase in turnover due to innovations was achieved by new or significantly improved products, and even about 57 per cent of the innovative firms introduced products that are totally new to the market, contributing to an average turnover share of about 20 per cent. About 51 per cent of all firms introduced process innovations, and 88 per cent of these firms indicated that process innovations led to an increase in productivity, the average productivity increase being about 18 per cent. Finally, about 52 per cent of all firms introduced new information and communication technologies; over the last three years, they spent around 6 per cent of their turnover in 2001 on ICT.

In accordance with the theoretical considerations and the empirical results above, the innovation capacity increases with firm size. For instance, in the group of small firms with less than 30 employees, about 48 (42%) of the firms stated that they introduced product innovations, while the product innovators in the size group of more than 100 employees were 77 per cent of all firms in the survey. The relatively high share of very small firms with product innovations can thereby be explained by high-tech start-ups that started their firm just with the new product. To some degree this confirms the observation that the providers of ICT-net or services pick the big players within the CBD. Only about 35 per cent of the firms with less than 10 employees state that they had invested into modern information and telecommunications technologies, over the last three years.

The regional distribution of innovative firms within the metropolitan region of Melbourne shows that Western Melbourne is the region with the lowest innovative capacity within overall Melbourne metropolitan region (Table 4.27). This to some degree supports the results above with regard to the access of ICT, as well as agglomeration and the firm-size distribution across the metropolitan region. And the fact that the share of firms that have been investing into ICT during the last three years is the highest in the CBD supports the conclusion that it is the CBD where not only the main high-tech services are located but where also ICT is easily accessible.

Table 4.26. Share of firms with innovations or investment into ICT – Total and per firm size

	Total	0-10	10-30	30-100	> 100
Product innovations	54.9	47.8	42.1	52.9	77.3
Process innovations	51.2	39.1	42.1	64.7	63.6
ICT-investments	52.4	34.8	52.6	58.8	68.2

Source: OECD/SGS-survey.

Table 4.27. Share of firms with innovations or investment into ICT – Per region

	Central Melbourne	Northern Melbourne	Western Melbourne	Eastern Melbourne	South Eastern Melbourne ¹
Product innovations	57.1	52.0	46.2	52.6	60.0
Process innovations	50.0	60.0	53.8	36.8	60.0
ICT-investments	71.4	44.0	41.7	52.6	70.0

1. Data might be biased, since only few firms from the South East of Melbourne answered the question.

Source: OECD/SGS-survey.

According to the results in Table 4.28., the main reasons why the firms surveyed did not introduce innovations or ICT are high costs of R&D or innovation, uncertainty and low innovation amongst suppliers and customers. In contrast, as indicated above, only about 17 per cent of the non-innovators stated that it was due to ineffective protection of own knowledge. The ranking of obstacles varies across different firms-size groups. While small firms mainly assign the role of the most important obstacle to uncertainty, very large firms most often complain about the costs of R&D or innovation. It is interesting that especially the ranking of the factors “costs of R&D” increases with increasing firm size. On the one hand, this speaks against the theoretical argument according to which small firms are not able to spread the costs across different projects and might thus have only few incentives to innovate. On the other hand, it might reflect the influence of public policy, which supports to a high degree small firms in their innovation activity. Interesting also is the result that poor information about demand and low innovation within the supply chain has almost the same ranking across all firm-sizes. This might indicate weak information links between suppliers and customers and might thus indicate low networking activities.

Table 4.28. **Obstacles for the introduction of product/ Process innovations or ICT – Total and per firm size**

	Number of employees				
	Total	0-10	10-30	30-100	> 100
Uncertainty	40.7	62.5	66.6	0.0	33.3
Costs of R&D or innovation	53.3	42.9	71.5	83.3	88.9
Poor information about demand	36.0	27.5	40.0	33.3	40.0
Low innovation amongst suppliers/customers	40.7	44.4	40.0	33.3	50.0
Lack of knowledge of qualified staff	33.3	50.0	33.3	16.7	33.3
Ineffective protection of own knowledge	16.6	28.3	20.0	16.7	0.0
Weak links to research institutions	24.0	25.0	20.0	16.7	40.0

Note: Share of firms that stated that the respective obstacle has been important or very important.

Source: OECD/SGS-survey.

Networking

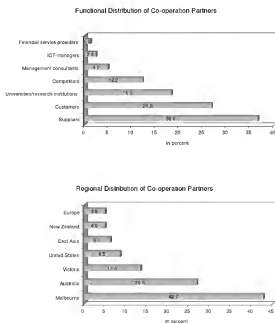
Melbourne firms seem to be already relatively well-involved in networking activities. About 50 per cent of all firms stated that they co-operate with external parties, whereby about 56 per cent of these relations are long-term alliances. This gives hope that specialisation advantages can be materialised and might thus support the view that there are external economies of scale exploited within the Melbourne metropolitan region. Consistent with this is the result with regard to the regional distribution. And, as it was expected, the main type of co-operation or long-term contact is within the supply-chain. About 37 per cent of firms stated that their main co-operation partners are suppliers, 27 per cent of the firms have co-operation relations with customers. Together with the results above, this speaks in favour of a strong trend towards local clustering.

What has to be mentioned is that about 18.3 per cent of firms co-operate with universities or research institutions. Compared to the amount of co-operation with suppliers, this is relatively low but should not be undervalued. Rather, it is a good sign and to some degree supports the results from above that Melbourne or Victorian universities try to keep a steady contact with businesses. What is however not very promising is the result with regard to co-operation with financial service providers and ICT-consultants. These results support to some degree the recently mentioned possibility of failures in or lack of information on financial markets. And, the low level of co-operation with ICT-consultants could be seen as one more indicator of market failures on the side of ICT-services, resulting in a

low demand for and lack of awareness of the benefits from (and the resulting under-utilisation of) the existing ICT-network.

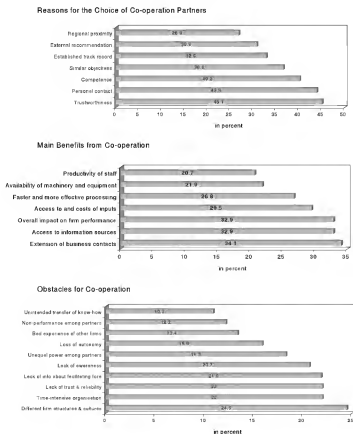
With regard to the main criteria for the choice of co-operation partners, the benefits from (as well as the main obstacles) for non-performance of co-operation, there are mainly two inter-related conclusions (Figure 4.13). Firstly, the role of trust and reliability seem to be the crucial issue. About 45 per cent of firms with networking relationships state that personal contacts and trustworthiness were the main criteria for the choice of their co-operation relation, even more than competence and similar objectives. Similarly, personal contacts and the real “networking”-effect of co-operations, *i.e.*, to extend the list of contacts and thus to build up more trust among firms, were also the main benefits firms draw from their co-operation relationships.

Figure 4.12. Functional and regional distribution of co-operation partners



Source: OECD/SGS-survey, OECD calculations.

Figure 4.13. **Choice of co-operation partners, benefits from and obstacles for co-operation**



Source: OECD/SGS-survey, OECD calculations.

Secondly, the role of information flow among firms as described above seems to be crucial, both for the establishment of networking relationships as well as for the benefits from such co-operations. The lack of information about fora that could induce networking and the lack of awareness of the benefits were perceived as main obstacles for co-operation. Additionally, the access to information is one of the main benefits of co-operation of the firms within the survey, whereas the access to cheaper machinery and equipment

as well as the productivity of staff were only perceived as minor benefits. Indirectly, the strong role of information together with the perception of the impact on the overall performance of firms as main benefits from co-operation might finally indicate that the benefits from co-operation can not be seen directly. Rather, they support the argument – as was outlined in the theoretical considerations – that the information flow has an indirect role in the form of the force inducing the productivity enhancing activities like reduced transaction costs and innovation.

Intermediate Assessment

Summarising the results, Melbourne has overall performed relatively well. It is central to a stable Victorian economy with above average rates of growth of GDP and productivity and exports. Victoria has managed to reduce the unemployment rate since the mid 1990s. Melbourne itself is a basic transportation hub for Victoria and overall Australia with a special strong role of the port of Melbourne as the main container port in Australia. The metropolitan city of Melbourne is well-connected in terms of modern ICT-infrastructure providing one important element for the knowledge-based economy. It is also characterised by a relatively good innovation base in terms of R&D-intensity, especially with a growing share of business-R&D, as well as a comparatively strong incidence of high-quality university education. And it is characterised by a relatively strong fiscal position, both from a state as well as a local government finance point of view.

Melbourne is however facing several challenges to achieve a future sustainable and balanced growth path. With regard to Melbourne's competitiveness, there are especially five points that may be of concern.

Firstly, Melbourne is characterised by a very traditional industry structure. While potential for high levels and growth rates of productivity in high-tech production and exports is shown for basic chemicals, machinery and equipment, as well as for transportation and health services, Victoria's industry structure shows a focus on mature industries within manufacturing with only limited potential for future productivity growth.

Secondly, despite the generally good endowment and broad net of road, sea- and airport as well as communication infrastructure and the competitive pricing in energy, there could be severe bottlenecks and constraints for supply and accessibility of infrastructure to overcome in the future. Concerning the seaport, the future role of Melbourne will depend on whether a decision can be reached to ensure accessibility at relatively low costs for new bigger ships without damaging effects for the environment. And, the accessibility from the land-side is hindered by insufficient road and

rail connections. There are bottlenecks in energy supply; transportation infrastructure is characterised by congested road infrastructure and an insufficient level and quality of rail and public transport infrastructure; and, restricted access, to and high prices for, the use of and consequently under-utilisation of the existing ICT infrastructure, especially for rather regional and rural areas, indicate a monopoly position of the dominant telecommunications supplier in Australia in both the ownership of the net as well as in the downstream services.

Thirdly, Melbourne's performance in knowledge and human capital is only good as when compared to other cities or states within Australia. However, Australia is not necessarily the right point of reference and raises the question as to whether Melbourne can also compete internationally. Victoria's R&D-intensity as measure for investment into innovation is on an OECD average with a relatively high share of R&D undertaken in non-R&D-intensive industries. Furthermore, better wage and teacher-pupil conditions overseas which encourage highly skilled staff to leave the city and the country may be one reason why Melbourne cannot yet compete with internationally renowned universities.

Fourthly, Melbourne or Victorian firms still seem to be relatively inward orientated. Although there has been a strong increase of exports during recent years, the small export-import ratio indicates relatively weak international competitiveness of domestic firms. Additionally, Victoria's revealed comparative advantages are in industries that are commonly categorised in low-tech or non-R&D-intensive industries. This low competitiveness in international markets may – according to the results from the survey – be the consequence of generally still relatively low outward-orientation, measured as the share of input good or turnover from or to Europe or the United States but also partly to East Asia.

Finally, Melbourne is characterised by a small firm-size structure with at the same time high concentration in some industries. This size structure might indicate a strong entrepreneurial culture and a high degree of specialisation on core competencies. And, there is strong potential in some areas within Melbourne for agglomeration and localisation of – partly high-tech – industries and thus for external economies to be materialised. However, what is missing in Melbourne is the critical mass that would be necessary for successful innovation and export activities. Melbourne thus risks losing the potential for future international competitiveness. And, the results indicate that Melbourne firms cannot yet sufficiently exploit agglomeration and transaction cost advantages. Particularly, weaknesses in the flow of information are perceived as main obstacles for innovation as well as for co-operation.

How to Foster Competitiveness in Metropolitan City Regions – Theory and Best Practice

From the definition of competitiveness as the ability of a metropolitan region to attract mobile factors and to use the immobile and mobile factors in an efficient way, in general future policies should go in two directions. Firstly, they should aim at improving the attractiveness of the metropolitan area. Policy options would be, for instance, property market policies, measures to improve the supply, quality, accessibility and the efficient use of infrastructure or business tax instruments, well-functioning financial markets, competition policies, and the creation of a business-friendly environment in order to facilitate firm entry and location. Secondly, policies should aim at enhancing expansion and productivity growth. Policy options could be, for instance, government expenditures into research, education and training; adequate competition policies in order to foster human and knowledge capital and innovation or other productivity increasing activities, policies for improving financial markets in order to enhance firm investment and growth; and provision of information and intermediating fora which facilitate productivity increasing networking and clustering. In what follows, the main rationale as well as some options for policies will be discussed from a theoretical standpoint. This will be complemented by a discussion of recent policies to foster the competitiveness of Metropolitan Melbourne.

Infrastructure

In general, the main problem that Melbourne will have to solve in both passenger and freight transport as well as in energy infrastructure is the question of how to manage future growth in demand. The following considerations will try to answer the question “Which policy might be useful for a better management of future demand for basic infrastructure in a metropolitan city like Melbourne?”.²⁷

There was and still is the tendency in Australia as well as in other OECD-countries to react to growing demand for basic infrastructure, especially concerning the transportation infrastructure, by public investment into a wider infrastructure network.²⁸ There are mainly two arguments which might justify such public investment:

- Infrastructure is perceived as quasi-public good, fulfilling the non-excludability and the non-externality principles: once public goods are provided no one's use of these goods can be excluded and they can be used by all citizens without restricting other users. In that sense infrastructure has positive external effects for society which, would not be taken into account by private investors.

- Infrastructure is characterised by decreasing average costs and the threat of natural monopoly. Building up and providing infrastructure is subject to irreversible investment into the road, rail and communication network. In order to cover these fixed or sunk costs private provision might only be profitable for very few firms, in extreme by a monopoly. This may mainly result from the long-term character of infrastructure investment and thus the uncertainty of returns from the construction of new roads or rail network. The decision on how much to invest into road and rail infrastructure has to be taken now for a future demand that is very difficult if not impossible to plan or forecast. One main argument for public provision is then that the prices for the use of infrastructure that are charged by private investors might be too high to be affordable for all households which again acts against the objective of equal opportunity. And, monopolist price setting implies a sub-optimal amount of infrastructure.

However, these arguments are only possible justifications for public provision of infrastructure; they are not sufficient for government intervention to actually take place. Firstly, infrastructure is not a pure public good. On the one hand, the non-externality-principle does not apply. In contrast, for instance the use of roads by one user might have negative effects on the use of each other user in form of congestion effects. In that case, the justification for government intervention would not be the public good characteristic of infrastructure, but rather negative external effects that the market, *i.e.*, the users of the roads do not take into account. On the other hand, the use of infrastructure can be excluded if it is made subject to a user charge. This charge would reveal the real costs of using the road by each individual and would thus internalise the external effect such that infrastructure is equivalent to a private good.

Additionally, while there are positive effects of infrastructure provision for firm location and thus indirectly for economic growth and job creation, theoretical and empirical studies emphasise the inverted-u-curve showing influence of public infrastructure provision.²⁹ From a certain threshold level onwards the public provision might be even negative for growth. The reason behind this is according to Brons *et al.* (2000) that with increasing government expenditures the distortionary effect of taxes that have to be raised in order to finance these public expenditure becomes more important and might eventually even outweigh the positive effects from increased productivity.

Secondly, while the natural monopoly argument might speak for the need of public planning of the underlying network, it is no obstacle for an – at least partly – private financing and for the private provision of the service resulting from the infrastructure provision. For instance, roads can be privatised and financed by road user charges or an annual duty. Or, recently telecommunications networks have been privatised and deregulated whereby the ownership of the net and/or the communications services is now in the hands of private firms. The role for government intervention might then be in the sense of a regulatory institution which, monitors the competitive behaviour of the main players in the new telecommunications market and intervenes if there are tendencies for competition deterring behaviour of the incumbent players.

Therefore, neither the public good nor the natural monopoly argument are sufficient for public intervention in the provision of infrastructure. The justification for public provision of road infrastructure would be the external effect argument according to which congestion prevents a free flow of traffic and as a consequence creates social costs. And since each individual user does not take into account the external effect that his use creates for the use of every other individual, governments see themselves as responsible to intervene by increasing the network of road infrastructure in metropolitan cities like Melbourne. However, congestion is not caused by an under-supply of roads, and increasing the network of road infrastructure does not necessarily lead to long-term low congestion. Rather, reacting to congestion by setting up an ever-increasing network of roads might end up in a vicious circle: more roads might increase demand for roads and so forth. In contrast, the reason for congestion is the fact that users are not aware of the real costs of road use. Roads are treated as a pure public good, *i.e.*, they are used because they are a costless way to travel. In contrast, if government or if a private investor or owner imposed a user charge equal to the costs that arise from the use by each additional user, this charge would signal the costs of the road use to the users and would thus enable an efficient management of roads.

The argument might be still that – despite the appeal of user charges – it would not be possible to actually implement them because of the problem of how to calculate the correct price. In general, pricing the use of roads would mean marginal cost pricing. However, due to initially high fixed costs of setting up the road network, this charge would not cover average costs. Or, taking these fixed costs into account might ultimately lead to relatively high charges. Possible negative effects could then arise in three forms. Firstly, since it might not be possible or reasonable to charge all streets with road user charges, individuals would try to circumvent the charged roads – an effect which can be already observed in Melbourne where people try to

circumvent the only tolled road – the City Link. Thus, expecting this effect, there would not be an initiative for private actors to invest into the toll-road because of low returns. And, congestion or bottlenecks on side-streets would arise rendering the situation even worse. Secondly, the social argument behind the public provision of infrastructure would become relevant: relatively high charges might not be affordable for low-income-households that are dependent on the car. Thirdly, arguments against road pricing might be raised based on the perception that road pricing would be an obstacle for firm location. Higher transportation costs might render Melbourne less attractive for business as compared to other locations within Australia where such charges are not imposed. This might be especially relevant having in mind that Melbourne seems to have problems in attracting firms with a more inter-regional and international orientation.

Recent literature proposes solutions for overcoming these problems and increasing the social acceptance of road pricing: Firstly, according to (OECD, 2000a), mixed financing of basic infrastructure – especially transport infrastructure – via public-private partnerships is a recommended way to handle the financing problem of basic infrastructure. Thereby the introduction of public-private partnerships in transportation infrastructure should be according to the following principles (OECD, 2000a):

- integrate private sector involvement into overall urban strategy;
- do not ignore the limitations of the all-public or all-private finance models;
- introduce land and property values in infrastructure finance;
- separate socio-economic and financial returns;
- risks should be borne by those who are in the best position to assume them;
- define the responsibilities and risks to be assumed by public and private actors; but,
- leave the planning risks to the public sector.

Secondly, road pricing has the additional advantage as compared to an annual toll that charges can be set very variably, according to different time periods, to the distance and to the location of the trip. It may even be possible to take into account the ability of each individual to pay as

measured by individual or household income. This is especially the case because of new technologies that are developed and used for charging. With the help of the so-called "tag" each individual trip can be registered automatically allowing the calculation of the optimal price for each individual on the basis of the registered data. Thus, the price per trip would be a basic charge covering to some degree the fixed costs of setting-up and maintaining the network, thus taking into account the value of the network, and a variable component that would depend on the length and the time of the individual trip. Additionally, similar to the telephone bill, the payment of the charge can be set to be payable per month or even a longer period enabling special offers for instance for frequent or "long distance" uses. And the tag recognises the individual driver. Thus, individuals or households with low incomes can be charged a lower rate or can be reimbursed a fixed amount afterwards.

Finally, the full advantages of road user charges are exploited if they are one main part within a complete package of instruments for an efficient transportation management. As one main element of such a comprehensive transport plan, education and information concerning the need for, and the advantages of, such charges would increase their acceptance. This is especially the case when people are informed about the fact that the charge is not equivalent to a general tax and thus not only a duty to pay, but that is an instrument to improve the efficiency of the transport management and has thus positive effects for everybody. In that sense also the fear of deterred business location is not justified. In contrast, if it is implemented correctly, the negative effect in the form of a cost increase due to the charge itself might be outweighed by the indirect positive effect in the form of the free and fast flow of traffic which is achieved through it.

As another main element of such a package for efficient transportation management, individuals and firms should be given a choice in the form of a well-functioning rail and public transport system. Modal inter change facilities would provide an additional means to create the incentive to use public transport instead of the car – for at least some parts of the daily trip. According to the Infrastructure Planning Council (IPC, 2001) measures inducing a shift from the car towards rail and public transport could be introduced at the firm level. For instance, firms could provide the monthly ticket for public transport instead of paying for travel expenses by car or even providing a car. Furthermore, a high quality and efficiently managed rail system would provide a valuable alternative to freight transport on roads. Especially, with regard to the bottlenecks at the inland connections to the port, pure reliance on road infrastructure is no longer sustainable, either from an environment or from an efficiency point of view. In that respect, alternatively a rail connection to the port could be built with direct links to

inland-ports where goods could be further handled instead of a radial system of roads from the port. These inland ports could be located close to a cluster of industries with similar needs. And, an additional argument in favour of such a solution is the strong performance of Victoria in high-quality logistics services. Melbourne should use these opportunities to develop more efficient transportation management.

With regard to communications infrastructure, neither the public good nor the natural monopoly argument would support public provision of this type of infrastructure. The considerations in the theoretical as well as the empirical effects on Melbourne rather stress lack of competition, or more specifically the entry deterrence behaviour of the incumbent monopolist in the downstream market as the main problem hindering an optimal supply and use of telecommunications infrastructure. It may be argued that the underlying problem is the fact that the government reduced its intervention by deregulation and privatisation of the telecommunication infrastructure. However, the empirical results indicate rather that the monopolistic position of the incumbent is not caused by the deregulation itself, but rather the failure to separate ownership from the downstream service market and thus to introduce competition into the telecommunication market as a vertically integrated market.

According to OECD (2001i) the main problem in vertically integrated industries is that the incumbent owner of essential inputs like the ICT-net might restrict competition in the downstream market, *i.e.*, the services for the final customers, if the owner of the net also competes on these downstream service markets. The owner of the net has the ability to restrict entry since the downstream firms are dependent on the access to the essential communications net. For instance he/she might do this by increasing the price for the admission to the communications net, or by lowering the quality or the timely access to the net. And, the owner has the incentive to restrict competition on the service market if this service market is less tightly regulated than the ownership of the net. If both markets were regulated in the same way and the owner of the net was the main actor on the services market, he/she could set monopoly prices and capture monopoly rents on both markets. However, if both markets were still vertically integrated, but the services market was regulated less tightly than the ownership of the net, the possible monopoly rents from the service market would be lost for the owner. In this case, the owner of the net might want to restrict competition on the service market in order to re-capture some of these rents.

However, as a consequence of both monopoly pricing as well as restriction of the net for competitors on the downstream service market,

there might result under-production and under-utilisation of ICT-infrastructure – mainly due to limited accessibility and lack of affordability especially for low-income groups and households or businesses outside the inner metropolitan region. Additionally, monopoly and entry deterring behaviour of the incumbent might result in a lack of continuous upgrading of the ICT net and services provided. According to Tirole (1992) this may be the case due to the so-called “replacement effect of innovation”. As long as the incumbent is not threatened by a potential entrant, *i.e.*, as long as the incumbent controls the input as well as the downstream service market, he/she will earn monopoly profits – whether he/she invests into innovation or not. Thus, there might not be any incentive to invest into upgrading, *i.e.*, into the introduction of new technologies, since this would not change the situation.

As a consequence, introducing more competition, especially by separating ownership and downstream service markets could have several positive direct and indirect effects.³⁰ It would provide for access to the telecommunications net for all people, not only business and not only within a small area around the CBD. Competition in the telecommunication market would spur innovation and thus the ongoing upgrading of the underlying CAN and would increase the use of the CAN net. The price for using the net would be reduced and indirectly, stronger use would be induced through information, since each service provider would have an interest in providing also the necessary information on the use for the consumer in order to attract consumers. Indirect effects might be increased innovation, firm growth through higher use of productivity increasing information technologies, both leading to a change in the industry structure towards more technology – or ICT-intensive industries.

According to OECD, 2001i, introducing competition into vertically integrated markets may take four forms:

- Separation of the ownership of the competitive and non-competitive segments of the regulated utility, supplemented by a line-of-business restraint which prevents the monopolist from re-entering the competitive activity.
- Club ownership of the natural monopoly facility by firms which compete in the competitive activity. Being member of the club then would ensure that every member would obtain equal or non-discriminatory access to the non-competitive part.
- Allocating a share of the total capacity of the natural monopoly facility to each of the downstream competitors – as is done with

airport slots. This solution is useful if the capacity of the facility is easy to define.

- **Operational unbundling:** There, the ownership remains in the hands of a firm which may also compete in the downstream market. However, a neutral body would have control over the ownership.

Thereby, separation does not necessarily have to be in the form of a concrete divestiture. This is the case since the separation itself might have negative effects that would counteract the gains from competition. According to OECD, 2001i, separation may increase transaction costs, may force the monopolist to forego efficient ways of selling the monopoly services or of price-discrimination, and it may be subject to sizeable one-time costs of implementing it. As a consequence of the trade-off between costs and benefits, several countries have developed different forms of separation like accounting, functional or managerial separation or corporate separation. There both, the competitive and the non-competitive element remain in the hands of one firm, but with a rather functional or purely on-paper separation of the respective activities. According to OECD, 2001i however, these forms do not really solve the anti-competitive behaviour of the monopolist owner, but may be important supplements of other forms of separation.

Separation of ownership and downstream service markets however is mostly a national issue and may be beyond the control of local or state governments. But this does not preclude state or local government action having in mind that a sufficient provision of an up-to-date ICT-net and usage of the ICT is especially necessary for metropolitan regions. Cutler&Co. (2001) for instance emphasise the need for metropolitan regions to foster an environment that is favourable for the location of ICT-related firms as well as for the uptake and use of the ICT-net by customers and private households. Options would include facilitating access of potential investors to the ICT-net as well as to financial markets, to improving the availability of skilled labour, and developing effective urban planning in order to assure the accessibility of ICT in all areas. They stress the need for involvement and co-operation of all forms of stakeholders, especially the private sector. They state for instance that "Government should not undermine the private funding of information infrastructure from within a competitive environment and risk distorting true market structures" (p. 25). Furthermore, providing highly targeted support to key stakeholders would enable the development of infrastructure-"hot spots" that could be sited in existing, or combined with the development of new, knowledge precincts and would again benefit the wider economy.

Human and Knowledge Capital

The theoretical and empirical results stress the importance of human and knowledge capital for productivity growth and thus the competitiveness of Metropolitan areas. It is exactly in metropolitan areas like Melbourne where human capital in the form of leading universities or research institutes as well as innovative industries or services or the R&D-branches of global firms are located or where agglomeration might spur innovation. Melbourne's main challenge will be to further improve its role as a knowledge and research base, in order to reach high performance in all forms of education as well as basic and applied research in universities, research institutions and firms as compared to international standards. In considering the main arguments for and against public intervention as well as best practice policies, the strong interdependence between human and knowledge capital which constitute the main pillars of the knowledge-based economy should be kept in mind.

There are mainly two inter-related lines of justification for government intervention or support of innovation, the market failure and the systemic failure argument³¹. The idea behind both lines of argumentation is that if one leaves R&D totally to the market there would result a sub-optimal level of investment into R&D. Thereby, the market failure argument rests on the decision process of the individual firm or actor in the innovation process. In contrast, the "systemic failure" – argument rests on the perception that successful innovation depends on the interaction of all participants in the innovation process. As a consequence sub-optimal innovation would result from "systemic failures", *i.e.*, mismatches between different participants of the innovation system.³² Bringing both lines of argumentation together, sub-optimal investment into R&D may arise from five types of market failures:³³

- External effects from R&D. R&D of one firm can spill over to another firm – especially in the case of basic research – since the return from research can not be fully appropriated. Or, knowledge is transferred in the form of embodied knowledge in materials or intermediate and final products. This external knowledge might however benefit competitors, by enabling them either to launch the innovation first or to introduce follow-up innovations. Having in mind that its own R&D might spur the competitors' profits, each individual firm might invest less into R&D than would be socially optimal; or, by trying to protect its own R&D by patents or firm specific measures, knowledge might also be diffused to a lesser degree than would be socially desirable.

- Lack of exploitation of economies of scale from R&D. This is especially the case since investment into R&D often is irreversible and has a high risk of failure, two characteristics of R&D that might deter firms from investing into it. Thus, the lack of ability of small firms to exploit economies of scale (or scope) might be a barrier to innovation of small incumbent firms or possible entry of new innovative firms. In contrast to these firms, larger firms can distribute the costs and risks across different projects. Or, producing the innovation would only be profitable for few firms where the incumbent firms would have the advantage that they are already selling for the respective market and could thus deter entry of competitors. And, incumbent firms can exploit learning curve effects in form of a broader base of staff resources with long-term experience in (specific) R&D projects.
- Incomplete and asymmetric information. R&D intensive firms face problems of access to external financial resources which is mainly related to the time lag between the investment into R&D-projects and their return together with the extreme uncertainty and the risk of failure of R&D-projects.
- Lack of network-effects. As was emphasised in the previous theoretical and the empirical analysis up to now, the agglomeration and co-operation between different institutions and firms might enable specialisation advantages for each firm. What makes networks especially attractive and effective for innovative firms is the flow of information between the various members of a network.
- Sub-optimal diffusion of R&D due to insufficient absorptive capacity.³⁴ Firms may not have access to or might not be able to use knowledge that is produced by a different firm, by a university or research institution and which is transferred in the form of embodied knowledge or through co-operation and direct exchange. The absorptive capacity itself is thereby attained by investment into necessary training or organisational changes, but also in the form of R&D expenditures in order to be able to read and to implement knowledge and innovation produced elsewhere. In this regard, low investment into R&D and innovation activities might be detrimental not only for the creation of knowledge and innovation but also for imitation and knowledge diffusion. And, long-term growth cannot be achieved by solely relying on others to do R&D.

With regard to innovation, as in the case of infrastructure, market failures may constitute a justification but not necessarily a sufficient reason for government intervention. Markets may still do better than government. In that sense, the role of the government is increasingly to have the conditions right such that the markets for R&D, the financial as well as the product markets, work properly. The changing role of the government in supporting the knowledge-based economy, according to Vickery (1999), is related to the changed environment faced by businesses as a consequence of globalisation. Increasing trade and communication, with at the same time declining costs for computing, communications and transport make it necessary for firms to re-organise and become more responsive to change. As a consequence, businesses are undertaking a higher proportion of R&D, while the share of R&D that is funded or performed by government has declined; there is growing acceptance of the "learning society"; policies are being improved to unblock the bottlenecks which SMEs face; and governments increasingly accept the virtues of privatisation and market liberalisation, and thus the need to reduce unnecessary public-sector intervention.

The new role of the government is then best described as follows Vickery (1999, p. 1): "Policy is increasingly setting itself the task of creating general conditions which encourage entrepreneurship and innovation, the development of new products, new ways of marketing and producing, even encouraging the birth of new activities. Today, the primary concern of policy is to provide the conditions necessary for healthy competition and enhanced business performance globally. Encouraging efficiency in markets rather than intervening directly. Looking outwards taking into account the liberalisation of trade and investment and new openings in capital and product markets, rather than adopting a purely domestic orientation."

Public-sector intervention should be directed towards the creation of a global knowledge and human capital base in order to increase innovation. Thereby, the objective should be to increase the incentives of firms to invest into R&D but also to fund or perform basic research in universities and research institutes and to encourage the exploration of uncertain and really new fields. Ways to foster private expenditures in R&D include support of R&D-expenditures or tax incentive schemes as well as enhancing the appropriability of R&D and innovation through intellectual property rights and to foster the access of small firms to information and finance. Improving basic research in universities includes – according to OECD (1997) – the need for an appropriate institutional funding with a proper balance between sure and rather precarious (contract-based) resources at the level of laboratories as well as an appropriate management of university and public research in order to stimulate excellence.

Secondly, government should promote or support investment into education and training of employees as well the mobility of people.³⁵ Mobility is understood as regional mobility as well as mobility between technical training and university education. Related to the last point is the need for the government to facilitate the diffusion and application of knowledge. Finally, high importance should be attached to the problems that SMEs are facing concerning innovation and firm growth. The role of the government there should be to improve access to finance, technology and innovations, facilitate the development of human resources and management capabilities, promoting networks and alliances as well as encouraging the diffusion of best business practices.

Thirdly, government should improve policy design and implementation (Vickery, 1999). On the one hand, this would be achieved if policy objectives were clearly identified, if the rationale for policy actions was well-defined and if the actions themselves were set into a flexible though robust policy framework as well as constantly monitored and assessed. Ways of facilitating the exchange between and the co-operation of different participants should be kept in mind from the very beginning and at any stage of the innovation process. This increases not only the creation, but also the diffusion of knowledge and innovations. On the other hand, increased co-ordination between national, regional and local authorities in the design and implementation of policies would improve the scope of policy leverage and would reduce duplication and inefficiency. The latter would also be achieved by making business and industry policies work alongside other wealth creating and distributing policies. Finally, governments too must learn.

With regard to the diffusion of knowledge, several OECD-governments have given greater attention to policies which directly address the lack of absorptive capacity of firms to access and use external knowledge in their own innovation or production process. According to OECD, 1997, policy options that are applied in several OECD-countries include technology broker services, networking initiatives and business advisory or technology consulting services. The most promising policies turned out to be the Manufacturing Extension Partnership network of state-level extension centres (MEP), the regional approach introduced in Germany and the BUNT-Programme (Business Development Using New Technology) introduced in Norway. In the MEP and the German regional programme main features are the local or regional orientation as well as the focus on the integration of different services via bridging institutions or via the access to local research institutions or consultants – the advantage being enhancing synergies and reducing overlap. And, the BUNT programme provided for

funding and training for industrial development consultants to help firms develop a strategy for technology use.

Entrepreneurship and Firm Growth

In the theoretical and empirical literature, small and medium sized firm are taking an increasingly important role for productivity growth. One main reason is the perception that the entry of small firms brings along innovations. This might either directly be the case since new firms are created because of a new product or technology. Or a positive effect for innovation might be given indirectly since the entry of firms spurs competition and thus increases the incentive of every firm in the market to invest in productivity-increasing activities like innovation. Having in mind this positive effect, an argument for government intervention is then to correct for the market failures that are preventing small firms from competition-enhancing and innovative entry and growth – an issue which is of particular interest for metropolitan Melbourne.

According to the theoretical considerations above, there are mainly three impediments preventing small firms from fulfilling their role as “entrepreneurs” spurring competition by entering the market and thus inducing productivity increasing activities like innovation:

- *Lack of exploitation of economies of scale or scope.* Large firms have comparative cost advantages either because of static economies of scale or scope since they are already serving a large market or can spread resources across a larger number of products. Or, cost advantages can result from dynamic economies of scale in the sense of learning curve effects: experience of the personnel in production, research but also in organisational issues.
- *Problems arising from incomplete or asymmetric information.* This shows up in a lack of or difficult access to relevant information on input or consumer markets, especially on an international level. More importantly, it shows up in lack of access to financial resources – an obstacle particularly relevant for entry and survival of high-tech firms or those starting off just with an idea (the real entrepreneurs). These firms are faced with high entry and exit costs for investment into research labs, into human capital and advertising and with high uncertainty of setting up and growing their firm. Small firms cannot spread this risk across different projects nor can they offer financial service providers securities in case of failure. In contrast, the uncertainty related to their projects increases the risk-

premium for external finance, and renders thus the access to external finances even more difficult.

- *Unfavourable regulatory environment or a high degree of concentration.* Regulation may take the form of direct government intervention, for example public ownership or public stakeholders in big firms. It might also take the form of production standards favouring rather big firms, or purely administrative burdens which small firms have relatively more difficulties in dealing with compared to incumbent large firms. Secondly, low entry may be the result of strategic behaviour of incumbents – known as entry deterrence, a phenomenon that has been stressed in more recent literature of industrial organisation.³⁶

For the management of the firm as well as for government intervention it is important to distinguish between different stages of growth, with different needs for information and finances for each of the stages. According to Business Channel (2001), these are:

- *Start-up Stage:* the commencement of business. It is characterised by raising the initial seed capital as well as research and development of a new product or technology to launch at the market.
- *Early development stage:* early stages of commercialisation. This is characterised by actions to find customers and markets and establish a team to develop the business or product opportunity.
- *Stability stage:* the stage towards a profitable and successful business operation. This provides a level of comfort for the owner and an established market position.
- *Expansion stage:* decision of the owner to grow. This might be in response to market demand or through strategic expansion decisions to take advantage of opportunities.
- *Resource mature stage:* next level of stability which is characterised by an established resource base and market position, on which the firm can capitalise.

Having in mind the complexity of this process, the role of the government should be oriented towards the intermediating part, providing

information and linking firms to financial resources as well as having the conditions right so that the underlying markets work properly. According to OECD (1997), government support of SMEs could take the following forms:³⁷

- *Supporting the availability of financial resources.* Low interest rates are important to make investment in equity more attractive. Tax policies, for instance tax relief for individuals who invest in unquoted companies, and regulation to allow pension funds to allocate a certain proportion of their funds for venture capital investment, could promote venture and equity capital provision through the market.³⁸ This could also be achieved by building “business angels” networks and increasing returns from early stage and technology funds for instance by giving a guarantee which covers a proportion of investment losses. Additionally, dynamic secondary stock markets could provide liquidity for investors and sources for finance and appropriate accounting regulation would ensure meaningful financial disclosure.
- *Creating a supportive regional and business infrastructure.* This can be done through a sufficient supply of legal, accounting, consulting and other services. With regard to encouraging of innovation, government support could be for instance in the form of building up a net of business and technology incubators or specialised advisory services.
- *Creating an entrepreneurial culture.* This could be achieved by education and training. And, economic growth, competition and trade policy, a conducive regulatory environment, as well as relations with large firms as customers or vehicles for access to markets could increase business opportunities.

Clustering: Agglomeration and Networking of Firms

As outlined above, market failures leading to sub-optimal entry or innovation might arise in the form of lack of network effects. The idea behind this is that firm entry, firm expansion and innovation of firms might be fostered by external effects in the form of agglomeration and transactions cost advantages that arise from the co-location and co-operation of firms. Having this in mind, low firm growth or innovation might be due to lack of capacity of firms to fully exploit such external effects – which is relevant for Melbourne as the results of the survey have shown. The identification of market failure and thus the question whether policy intervention is justified

and the form it should take is then equivalent to the search for factors that might hamper the co-location of industries and the knowledge flow between the different participants of a cluster. Obstacles for external effects from agglomeration and localisation of industries might be summarised as follows:

- *Lack of availability or access to factors determining agglomeration and localisation.* According to the theory these are qualified personnel and necessary intermediate inputs, interrelated industries, as well as the flow of knowledge or more generally of information. Low availability of qualified personnel might be due to low investment into education. And, lack of flow of information and knowledge might be due to low diffusion from the knowledge-producing firms on the one hand, and low absorptive capacity of the knowledge-receiving firms on the other hand.
- *Disincentives for co-operation.* Firms might not be aware of the benefits that a cluster or network would provide. Especially, small firms do not have the experience of networking. Additionally, firms might fear unintended transfer of knowledge to the network partners or outside the network. Or, they might fear high co-ordination and organisation costs of the network itself.
- *Small or missing markets.* Agglomeration and localisation of industries will only take place if firms can exploit scale economies. According to theory, the relevant criterion for agglomeration to arise is the trade-off between fixed costs and transport costs – if the necessary pre-conditions are fulfilled. High fixed costs of setting up a firm and at the same time relatively low transportation costs make it worthwhile for each firm to locate solely in one or only a few regions and serve the whole market from there. If however the market is not big enough, scale economies would not result. The firm might locate in this area however without agglomeration advantages being materialised and thus without external effects for the economy.
- *Too much co-operation and closed networks.* Despite efficiency-enhancing effects, co-operation always brings the danger of collaboration in form of cartels or anti-competitive arrangements between the members of the network and outsiders. Additionally, in order to leave enough room for competition and for synergy effects, networks should be designed in a very flexible and open way so that new members can enter. This, however, is not easy to manage and

might – in contrast – act against the security which is one main reason why networks lead to specialisation and to transaction cost advantages.

Having this in mind, the question whether government should intervene and what role it should play is very difficult. Theoretical and empirical research such as OECD (1999 and 2001g) stress therefore – even more than for innovation and small firms – the role of the government in setting the conditions for a well-functioning market, as well as serving as the intermediary and provider of information. According to OECD (2001g, p. 418) government should:

- establish a stable and predictable economic and political climate;
- create favourable framework conditions for a smooth and dynamic functioning of markets, as well as for innovation and upgrading;
- raise the awareness of the benefits of knowledge exchange and networking;
- provide support and appropriate incentive schemes for co-operation and networking for instance in form of competitive programmes for collaborative research and development;
- facilitate and stimulate networking and knowledge exchange for instance by initiating network brokers and intermediaries to bring actors together; and,
- remove government failures and regulations that hinder the clustering process.

The following table gives a short overview of how governments of OECD-countries reacted to the challenges of networking and clustering.

Finally, with regard to the explicit form of government intervention, the following pitfalls have shown up in the country experiences (OECD (2001g, p. 420):

- “The creation of clusters should not be government-driven but rather should result from market-induced and market-led initiatives.
- Government policy should not be strongly oriented to directly subsidising industries or firms or to limiting rivalry in the marketplace.

Table 4.29. Systemic and cluster based policy responses

Systemic and market failures	Policy response	Countries' focus in cluster-based policy-making
Inefficiently functioning markets	Competition policy and regulatory reform	Most countries
Informational failures	Technology foresight Strategic market information and strategic cluster studies	Netherlands, Sweden Canada, Denmark, Finland, Netherlands, United States
Limited interaction between actors	Broker and networking agencies and schemes Provision of platforms for dialogue	Australia, Denmark, Netherlands Austria, Denmark, Finland, Germany, Netherlands, Sweden United Kingdom, United States
Institutional mismatches between knowledge	Facilitating co-operation in networks Joint industry-university research centres of excellence	Belgium, Finland, Netherlands, United Kingdom, United States Belgium, Denmark, Finland, Netherlands, Spain, Sweden, Switzerland
Infrastructure and market needs	Facilitating joint-industry research co-operation Human capital development Technology transfer programmes	Finland, Spain, Sweden Denmark, Sweden Spain, Switzerland
Missing demanding customers	Public procurement policy	Austria, Netherlands, Sweden, Denmark
Government failure	Privatisation Rationalise business Horizontal policy making Public consultancy Reduce government interference	Most countries Canada Canada, Denmark, Finland Canada, Netherlands Canada, United Kingdom, United States

Source: OECD (2001).

- Government policy should shift away from direct intervention towards indirect inducement. Even if clear market failures exist, it cannot necessarily be concluded that government intervention will improve the situation.
- Government should not try to take the direct lead or ownership in cluster initiatives, but limit its role to the role of the catalyst and broker.
- Cluster policy should not ignore small and emerging clusters, nor should it focus only on classic, existing clusters.
- Clusters should not be created from scratch. The cluster notion has sometimes been appropriated by (industrial) policy makers and used

as an excuse to continue more or less traditional ways of defensive industrial policy making.”

Implicit in all these propositions and recommendations is the need for a risk-taking and outwards-oriented or at least an open-minded business culture. It is only through such a culture that effective clustering and cluster policy can take place. In that regard, the Melbourne business could learn from the experience in Boston – as described in the following box.³⁹

Box 4.1. Towards a risk-taking business environment – Learning from the Boston Case

According to Frenchman *et al.* (2002), the state of Massachusetts has traditionally taken a “hands-off” attitude to regional planning and has kept aside from directly attracting new industries in comparison with other states and countries. As a result, together with historical circumstances, the Bostonians developed an independent attitude or culture characterised by competition between multiple centres of power and neighbourhoods as well as interests which led to a strong entrepreneurial culture all over the city. According to Frenchman *et al.*, it is these traditional characteristics which explain the success of the Boston region and its leading industries today, including financial services, health care, high technology, education and consulting, and tourism. They preserved the role of innovation and change, leading to a local economy that is heavily based on technology. Some key clusters in computers, software, defence, financial services, healthcare technology, post-secondary education, innovation services, textiles, apparel and industrial services are the best examples.

This culture based on innovation, entrepreneurship and competition resulted according to Frenchman *et al.* from the historical context: Boston’s tradition of entrepreneurship is rooted in its orientation to the sea and proximity to Europe, in immigration and in a lack of natural resources to extract. Thus, according to Frenchman *et al.* the Bostonians were forced to create an attitude towards risk-taking and innovation – whereby innovations and new ideas have ranged from “new ideas of government, to innovations in industrial production, medicine, transportation, science, and city form”.

This attitude has been reinforced by the Boston character which is heavily influenced by and focussed on education, and community responsibility. Risk-taking was however not only to be found on the part of the innovators themselves. Rather, they were supported by people who had the

means and desire to invest, *i.e.*, by the city's many research and education as well as by financial institutions. Even today, Boston is a top source for venture capital in the nation (Hannon, 2000). And, equally important, the citizens of Boston were according to Frenchman *et al.* (2002, p. 5) "highly conscious of their achievements, promoting the city and its story – the 'Hub of the Universe'".

Competitiveness-Enhancing Policies in Melbourne and Victoria

There are already several programmes on State and Federal level that might foster the competitiveness of firms in Melbourne. Policies on the federal level are for instance support for innovation and the higher education funds. These policies will be mentioned as appropriate below. However, the focus of the following chapter will be policy programmes that have been or are planned to be introduced in the near future by the State Government of Victoria. These are the general framework outlined in the "Growing Victoria Together" Initiative, the Strategic Audit of Victorian Industry, the Victorian Business Programmes and Services, the "Showcasing Small Business"-Initiative and the recently introduced Business Tax Reform. Additionally, the Council of the City of Melbourne has developed the plan to make the City of Melbourne a thriving and sustainable city with one main item of the strategy for Melbourne being to improve the cultural vitality.⁴⁰ The description of the Docklands and the Metropolitan Strategy will close the descriptive part.

General Framework of the State Policies: Growing Victoria Together

With the "Growing Victoria Together" initiative, the Bracks Government launched a huge package of policies aimed at further economic growth and job creation but at the same time improving service quality and equity. The main items of the agenda are:

- *New infrastructure projects totalling AUD 2.13 billion.* This includes work to be done to standardise rail gauges in Victoria and realignment of key rail corridor lines in order to link Melbourne with Sydney and key regional centres in Victoria. Additionally, these include investment into the public transport, for instance the

extension of the Mont Albert tramline to Box Hill and the St. Albans Sydenham train line. And, there are plans to extend the Eastern Freeway to Ringwood as well as to develop the Scoresby transport corridor.

- *Investment into education and innovation of about AUD 386 million.* This includes firstly measures to enhance Victoria's learning environment, for instance through modernisation of science laboratories, libraries and other facilities in schools as well as through upgrading and modernising learning tools and ICT-technologies in TAFE-institutions and schools. Secondly, this includes the expansion of knowledge creation capabilities by investing into research and education institutions. Thereby, agriculture, viticulture, gene technology and space science will be especially targeted – for instance through the Centre for Innovation, Technology and Commercialisation and by supporting the application to the Commonwealth Government to construct a national synchrotron facility in Victoria.
- *A strong commitment to keeping the best young scientists and researchers in Victoria* and bringing experts back from overseas. Initiatives are for instance the investment into seed funding to establish the Victorian Endowment for Science, Knowledge and Innovation, increasing the number of ICT-graduates and investing into the Victorian film and television industry. Finally, the state itself will introduce new technologies to improve service delivery.
- *Tax cuts of about AUD 774 million over the next four years* – which will be discussed in more detail below.
- *Commitment to improve the environmental sustainability*, to deliver improved health and community services as well as to retain democracy and government accountability. Thereby, AUD 386 million will be invested in 2001-2002 in education and training. Projects are for instance to reduce class sizes, to bring more than 2000 new staff into Victorian schools, enhancing student attendance rates in the Years 5 to 9, to improve the learning facilities and to build new schools in order to meet the needs for the growing population.

Strategic Audit of Victorian Industry

One main part of the Growing Victoria Together – framework is the Strategic Audit of Victorian Industry. The aim of this project is to assess the strengths and weaknesses of specific industries as examples for the overall Victorian industry. Thereby, the industries that are audited are the Automotive Industry, Textile, Clothing, Footwear and Leather Manufacturing, Precision Engineering, Transport, Distribution and Logistics Services, Professional and Technical Services, Metal Fabrications, ICT, Environmental Management and Renewable Energy, Sport and Recreation and Financial Services. While several of these industries are high-growth and high-tech industries, suggesting a more pro-active and interventionist industrial policy, the aim is not to select specific industries which should be especially supported in the future. Rather, these industries are seen in the sense of case studies in order to analyse the potential as well as problems in Victorian industry which require to be addressed to enhance competitiveness of the Victorian economy.

Within the audit the emphasis is laid on the following objectives:

- *A Strong international focus.* Programmes addressing the international business activity are planned in order to increase the relatively low export activity of the Victorian industry as compared to international standards. This includes for instance investment attraction programmes and a focus on an integrated trade and investment approach at State and Federal Level.
- *Capacity to create and utilise knowledge.* The Audit will help to address low innovation on international standards by building on the potentials that Victoria already has. The ultimate aim is to increase Victoria's role as leading innovator and research base within Australia. Policy priorities are to retain and attract leading researchers and companies, to promote linkages between the science and technology base and industry – especially the commercialisation and rapid diffusion of technologies – and to unlock intellectual property from research institutions.
- *Strong linkages and networks at home.* Realising that broad and deep linkages are still missing within Australia, the Victorian Audit should be a first step towards a stronger network-culture. This should be achieved by helping to identify potential clusters, facilitating interaction between industry players and removing barriers to collaborative activities. Thereby, ensuring skills and access to ICT infrastructure should reduce the “uneven uptake of the

Internet by sector and firm size (dominated by large firms)” and thus do justice to the important role of modern information and telecommunications technologies as vehicles for the flow of information and knowledge.

- *Sustained performance in start-ups and growing businesses.* The Audit stresses that growth and consolidation of established businesses are necessary besides entrepreneurship. Australian business is still perceived as “behind leading practice in risk taking, growing businesses and access to venture capital”. Therefore, policy priorities are to address the access to seed and venture capital, to professional advice on the management of intellectual property, to knowledge management skills and marketing capabilities. Additionally, an advanced manufacturing strategy is planned for a dynamic manufacturing sector for growth and job creation. Thereby, the emphasis is laid on investment, international market access issues, high performing workplaces, skills for the future and broadening promotion.
- *Educated and highly skilled workforce.* According to the Victorian government, both, primary and secondary education, as well as higher education –especially the interface between university research or education and industry requirements– need to be improved. Policy priorities are thereby to promote a culture of lifelong education, raising educational attainment across the State, reducing disadvantage in access to education, promoting pathways between education, training and work, ensuring a functioning interface between the supply and demand of skills and fostering collaborative approaches between industry and education providers for improved training.
- *Highly competitive business environment.* The aim of the program is to address weaknesses in ICT-infrastructure, the supply of energy at peak loads and to keep prices at competitive levels and to monitor and reform continuously the regulatory environment. Policy priorities are thereby policies to promote leading edge infrastructure like meeting future demand for energy, developing and managing environmentally friendly energy, providing access to new communications infrastructure at affordable rates and high quality to underpin the uptake of the internet and e-commerce and developing an integrated public transport system.

The Strategic Audit is not seen as an attempt to pick winning sectors, since this is seen as a too risky undertaking to be viable for a long-term strategy. Rather the focus is to foster strategic capabilities, and thus the key strengths that have to be improved upon in order to sustain economic growth. Future aspects include the development, commercialisation and rapid and widespread diffusion of technologies, especially those with high spillovers. They include advanced engineering skills and more broadly a highly developed education and training system which can respond flexibly to the needs of industry. Additionally, aspects to be improved upon are design capabilities, whereby design is understood as the interface between concept and product or service,⁴¹ for instance in education, ICT and digital design. And such capabilities are adding value to natural resources and creative talents of the population in fields such as arts and entertainment.

The Business Programme

With its Business Programs and Services Package, the Victorian Government, especially the Department of State and Regional Development (DSRD),⁴² aims to enhance the international competitiveness of Melbourne firms and to initiate a move towards an entrepreneurial and innovative culture. [DSRD (2002)]. The programme package comprises programmes for management planning, innovation support, export assistance, support of human resources, regional assistance, energy use programmes and sectoral services, complemented by business information services. It thus addresses several potential weaknesses affecting the Melbourne and Victorian economy. The DSRD brings together and presents the different federal, state and local programmes within one overall package and thus helps the firms find a way through all various policy programmes.

The program package consists of a mix of different policies, from direct financial support, over the support of small business and emerging industries towards the delivery of services, respectively to linking the firms to service providers. Thereby, one main characteristic element of the programme offered by the DSRD is that it aims to assist the firms in solving the problems on their own. For instance, the Investment Ready Program assists expanding companies that are faced with a lack of financial resources by linking them to registered consultants which then help the companies through the various stages of acquiring and using equity. The Export Market Planning Program provides assistance for firms to elaborate together with an accredited consultant the appropriate export strategy.

The innovation program of the DSRD concentrates mainly on the diffusion of knowledge, the development of e-commerce within Victoria, and the commercialisation of technology. It thus acts as a complement to the

federal policies to support innovation creation via tax-deductions, grants and loans. Thereby, again, the DSRD focuses on the instrument to promote the access of companies to respective service providers, by funding some of the service costs of the firms. Technology diffusion is supported by network, demonstration and awareness – as well as feasibility studies – grants. Also interesting is the so-called “Inward Buyers Visits”-Program. There, the DSRD works together with local businesses and industry associations to “attract international buyers to visit Victoria, to raise awareness of the capability and competitiveness of Victorian Industry” (p. 8, export assistance). Finally, the State support of small innovative firms is supplemented by the Small Business Programme of the City of Melbourne. This aims to support the creation of new as well as the investment and growth of existing innovative small businesses that are located in the City of Melbourne.

Showcasing Small Business

The strong emphasis of the Victorian Government on fostering entrepreneurship and firm growth shows up in the fact that it even created a Ministry for Small Business Affairs. The programme that the Minister for SMEs introduced aims at assisting small business to be created and to grow. According to Thompson (2000, p. 5) the main focus is to:

- provide access to information, skills development and capabilities needed for the challenges ahead;
- minimise the impediments to growth and reduce the costs, by ensuring the minimum necessary compliance burden on small business. And, to make sure that balanced and fair approach applies to regulation;
- champion small business issues and concerns within all tiers of government; and,
- encourage small business to participate in and contribute to the State’s growth and to enter and compete in the global marketplace.

The support of Small Businesses is not a separate programme. Rather, the Victorian Government tries to address small business issues within several broader State programmes. These include the Review of the State Business Taxes, the Retail Tenancies Act, the Strategic Audit Programme, an ongoing review of regulations with regard to their impact on small businesses, and it is embedded into the broader framework of business

support programmes offered by the DSRD. The idea behind this is to help to bring forward and emphasise the importance of small business issues wherever possible as well as address problems of small businesses at all stages of the firm growth process.

The "Listening to Small Business Program" and the "Small Business Advisory Council" are meant to reflect a strong and sincere consultation process not only between ministry and businesses but also in form of a council, consisting of a broad range of diverse business operators. This might help to diffuse information, experience, best practices, etc. and express or bring forward problems of small businesses in an effective way. Additionally, the ministry not only helps small business to introduce modern ICT-technologies. It also uses these technologies, especially the Internet, extensively as means to distribute information.

Reform of Business Taxes

One main element within the broader package of the Growing Victoria Together programme is the reform of the business taxes in Victoria. The objective is a set of competitive business taxes which fulfils three characteristics: fewer, lower, simpler. Such a reform should increase the incentive for firms to locate in Victoria instead of other states in Australia, and should reduce the distortionary effects that were present in the previous tax system and which were perceived as a main obstacle for firm growth and investment.⁴³ Factors rendering the tax structure inefficient are mainly the heavy reliance on stamp duties and other narrow and distortionary taxes, the strong focus on payroll tax revenues while revenues from the broader and more efficient land tax are relatively low, and a large amount of tax-exemptions.

Additional to the need for a more efficient, simple, equal and sustainable tax system, the Victorian government has realised that since the last business reform several changes have taken place both in the business environment as well as concerning policies at the federal level. Main changes at the business side are continuous regulatory and technological changes and an increasing importance of the entry and growth of small businesses. Concerning the impact of federal policy this is mainly the introduction of the Goods and Services Tax (GST), which, according to the Victorian government, will be a problem for small businesses with – especially the compliance costs. These are changes in the financial relations between the federal and state governments which, according to the Victorian government, continue to disadvantage Victoria.⁴⁴

Keeping these changes in mind, the Victorian Government decided beginning 2000 to reform the existing business taxes.⁴⁵ The resulting reform package can be summarised as follows [Victoria Government (2001, pp. 2)]:

- The payroll tax will be reduced from 5.75 to 5.45 per cent from 1 July 2001 and to 5.35 per cent from 1 July 2003. Additionally, the current payroll tax threshold of AUD 515,000 will be raised to AUD 550,000 from 1 July 2003. The reduction in the payroll tax burden will be funded by a mixture of tax cuts and revenues realised as a result of the removal of three payroll tax concessions. And, three concessions to employers will be removed – the additional revenue being used solely to reduce the payroll tax burden.
- The current land tax threshold will be raised from AUD 85 000 to AUD 125 000 removing about 46 000 small business, investors and self-funded retirees from the land tax. Additionally, all land tax concessions will be retained.
- Three business stamp duties will be removed: the stamp duty on non-residential leases immediately, the stamp duties on unquoted marketable securities from July 2003 and the stamp duties on mortgage from 1 July 2004.
- The administrative arrangements will be simplified by developing information technology systems capable to taking credit-card payments on-line for taxation, by moving towards consistent legislation and legal definitions for payroll tax and work cover and by promoting the use of the Australian Business Number as the unique identifier for all business customers.
- In order to improve the business access and delivery of services several additional measures are introduced. Assistance to small businesses will be given in the “Skilling Small Business for the Future” initiative. This comprises a management training strategy and will encourage TAFE and other training providers to deliver locally customised and flexible training programs and to encourage investment by small business in appropriate management and employee training. Access to Government services is improved through a single point of electronic access, the Business Channel, and a single telephone number, the Victorian Business Line. And, the “Victoria’s E-commerce Advantage” should remove barriers to entry to e-commerce for small business and consumers.

- The tax package will be partly funded by previously announced business tax cuts of AUD 100 million per annum from 2001-2002 and AUD 200 million per annum from 2003-2004. Further tax cuts in 2002-2003 and 2003-2004 will be provided.

The Victorian Government emphasises the benefits for all businesses in Victoria, the small firms as well as the larger ones. And, it emphasises that through the introduction of the reform package, it will make Victoria even more competitive within Australia than it was before, especially as compared to New South Wales. According to their calculations in Victoria (2001, pp. 19f), State Taxation per Capita will shrink from close to AUD 1 600 per capita in 2000-2001 to about AUD 1 450 per capita in 2004-2005 and will thus continuously be about AUD 200 per capita lower than in New South Wales. Even more important, the difference to NSW will even increase if taxes are calculated as a share of GSP. There, taxes will be reduced from about 4.55 per cent of GSP in 2001 to less than 4.45 per cent in 2004-2005. In NSW however, State taxes as per cent of GSP will be reduced from about 5.10 per cent in 2000-2001 to less than 4.9 per cent in 2004-2005.

Melbourne Docklands

Melbourne Docklands is a massive two-decade long redevelopment project created by the State Government of Victoria in 1991 to completely transform an unused, dilapidated and environmentally damaged district at the western edge of Melbourne's Central Business District (CBD). The project was placed under the management of the specially created Docklands Authority with the mission "to promote, encourage and co-ordinate the successful development of Melbourne's Docklands as a waterfront place of character and quality in which to live, work and visit, creating a tourism asset and a boost to Victoria".⁴⁶ The vision is impressive: to create a district adjacent to Melbourne's CBD that will include residential, office, hotel, retail, sports, culture, entertainment and high-technology complexes, marinas, and a major recreational and parkland space for the public. The site is substantial: 220 hectares of land, 7 kilometres of waterfront, and 40 hectares of waterways contained in both the lower reaches of the Yarra River and in Victoria Harbour.

The planned components of Melbourne Docklands include: an estimated 7 000 apartments; 450 000 m² of high-tech commercial space; 100 000 m² of entertainment space; 77 000 m² of retail; 2 000 hotel rooms; 28 000 car spaces; 500 marina berths; facilities for ferries and water taxis; 26 hectares of public waterfront, promenades, open space and public parks, as well as

pedestrian, vehicular and transit access to the CBD. At completion, the project would house approximately 15 000 residents, be a workplace for 20 000 and attract up to 20 million visitors per year.

Major infrastructure investments that extend three main CBD streets and tramlines, as well as rebuilding the Spencer Street Station and providing new highways and footpaths, will connect Docklands to the CBD and the metropolitan region. By May of 2002, the total volume of investment, either completed, in construction, or in contract, reached AUD 6.4 billion. By full completion, investment at Docklands is expected to total AUD 7 billion. "A key feature of the vision is to balance public outcomes with the needs of private sector investors ..."⁴⁷

The Docklands development is subdivided into several "precincts", each designed and contracted to a specific private sector developer or, in the case of the infrastructure, to a public sector department. Major private sector developments for the precincts include:

- *Colonial Stadium*: Completed and opened in March 2000, this is a high-tech, multi-purpose sports and entertainment facility, with capacity of 53 300 stadium seating as well as flexibility to restructure in arena style. The Stadium is home to three AFL clubs, and is also used for cricket and rugby games, for major concerts and for special events such as university graduation ceremonies.
- *Stadium Precinct*: In the adjacent area, several buildings are completed or planned to surround this "Urban Stadium": the Channel 7 broadcast centre, opened in 2002; Docklands Gateway, two commercial office towers with 40 000 m² of space, retail and onsite parking; and, most recently, the announced plan for development of a 42-story complex with 440 apartments, 120 serviced apartments, and retail, restaurants and a medical/sports complex.
- *Yarra's Edge*: This AUD 1 billion project of five apartment buildings with 2 000 units, as well as restaurants, shops, marinas, ferry facilities, and a riverfront promenade, is well into completed development by the Mirvac company.
- *New Quay*: This complex of 5 buildings with 1800 apartments, 100 000 m² of high tech commercial space, 259 hotel and/or serviced apartments, 30 000 m² retail and mixed use, and a 350-berth marina, is partially completed and occupied.

- *Victoria Harbour*: This is the largest contract signed to date, to the Lend Lease Corporation in 2001, for an AUD 1.8 billion centrepiece development that is expected to take 12 years to completion. It will feature 160 000 m² commercial office space, including the headquarters campus of the National Bank; 20 000 m² of community facilities, and development of 3.5 km of waterfront into the Grand Plaza public space, the Harbour Esplanade, and Docklands Park.
- *Batman's Hill*: This 10-hectare site adjacent to the Collins Street extension and to the Stadium complex, has now attracted two projects: an AUD 130 million 13-story office and retail development for entry on Collins Street; and the AUD 700 million complex announced in May 2002 of four residential towers with 720 apartments, a commercial office tower, a 300-room hotel, and restoration of the historic Goods Shed as a fresh food market and food hall.
- *Digital Harbour, or the "ComTechPort Precinct"*: A vision of an AUD 300 million private sector joint venture between major technology corporations, educational institutions, and research and development organisations that would feature start-up companies through to large corporations. It was launched in December 2000 with the appointment of Digital Harbour Holdings to lead the development. The federal and state governments extended public contributions of AUD 22 million, and the first part of the project, which will require soil mitigation in preparation for 20-30 000 m² of incubator and office space, was announced in August 2001. This Stage 1 project represents 27 per cent of the land available at Digital Harbour, and 15 per cent of the planned floor space.
- *Waterfront City, or the "NorthWest Precinct"*: The request for proposals for development of this 19 hectare precinct was announced in April of 2002, with the expectation of attracting over AUD 400 million in investment for a mixed use complex of entertainment, film and TV, and retail facilities, which would be integrated with the AUD 40 million film studio complex now in development.

Major public infrastructure investments include:

- *Bridges over Latrobe and Bourke Streets:* The Latrobe St. Bridge has accommodations for all vehicles, trams, cyclists and pedestrians, while the award-winning Bourke Street pedestrian bridge provides direct access from the CBD to Colonial Stadium and the Spencer Street Station.
- *The Spencer Street Station:* The Victorian State Government announced in July 2001 the AUD 300 million redevelopment of this station as a major (and first-class) transport hub to link the Docklands and the CBD, and the first point of arrival for international, interstate, and regional visitors to Melbourne and Victoria. The project, which has a total area of 24 hectares, will also have a retail component upon completion in 2005.
- *Extension of the CBD Tram Services:* This will continue CBD tram links to Latrobe and Flinders Street, as well as build a new tramline along Harbour Esplanade.
- *Collins St. Bridge Extension:* Begun in 2001, this AUD 38 million extension of Collins St., will fulfil a major part of the overall vision to link Melbourne's main thoroughfare in the CBD with the Docklands complex: "With the commitment of the Collins St. Bridge, the Batman's Hill and Victoria Harbour precincts will become strong links to integrate Docklands and the waterfront with the Melbourne CBD."⁴⁸
- *IPort:* In late November 2001, the Docklands Authority called for "expressions of interest" to create a "Smart City" of sophisticated communications infrastructure for all those living and working in Docklands. This would include broadband Internet access and telephony services and enhanced home and office security, to assure that the Docklands development will be equipped with state-of-the-art technology.

The Metropolitan Strategy

The Victorian Department of Infrastructure (DOI) took over the task to develop a Metropolitan Strategy for Melbourne, based on numerous studies, e.g., background reports on competitiveness and the freight study, and a comprehensive consultation process.⁴⁹ The proposed strategy (see Box 1) is a well-elaborated and long-term foresighted plan for transport and land use

management. It represents a plan for a time period of 30 years. And, it emphasises the triple bottom line of objectives, *i.e.*, the consideration of economic, social and environmental issues. Both, long-term foresight and the triple bottom line approach increase the chance that this plan will be supported by local governments and communities and be implemented. The proposed strategy focuses mainly on transport and land use management in Melbourne. It does not attempt to be an overall Metropolitan Strategy. It is rather a first – albeit major – step towards an overall strategic plan for Melbourne.

In order to tackle the challenges arising from changing needs for transportation and land use management due to an ageing and a growing society as well as an increasing and changing pattern of freight task the, proposed strategy has some interesting features:

- To guarantee the sustainable prosperous development of Melbourne for the future, the transport and land use management plan will take into account economic, social and environmental issues.
- The activity will focus on existing and future growth corridors, whose connectivity will be guaranteed by a broad net and efficient management of road and rail infrastructure. Thereby, one main element is the development of a number of Activity Centres. These will include a mix of various activities, *i.e.*, retailing, basic consumer services but also educational or training facilities and housing.
- It emphasises that the Melbourne transportation problems cannot solely be solved by an extension of the existing road infrastructure, but by a complete package of instruments. These include for instance improving the system of public transport, especially its efficiency and reliability in order to guarantee the accessibility of all households to transportation as well as main services. It recognises that to achieve an environmentally sustainable solution car dependency will have to be reduced.

Assessment

In General the Right Issue are Addressed...

From a broad perspective the right issues are addressed. Firstly, for example, concerning the industry structure, the Strategic Audit of Victoria emphasises the need to build on existing strengths and to find some new niches, also within industries that are already rather mature and where strong

productivity growth cannot be expected any more. It is right to stress the need for changes in the industry landscape to facilitate the emergence of an industry structure characterised by knowledge-intensive and internationally competitive industries.

Secondly, the general framework, the Strategic Audit and the Metro Strategy address some of the main bottlenecks in infrastructure that have been outlined in the empirical analysis. They stress the importance of a sufficient rail and road infrastructure net as well as efficient transportation management. Additionally, auditing the transport and logistics service industry highlights the important role that logistics can play in such an efficient transport management. And these policy packages emphasise the need to promote the stronger use of modern information and communication technologies.

Thirdly, the Victorian Government is right in underlining the importance of building up a strong knowledge and human capital base, by investing in the school system, by supporting business R&D – especially of SMEs – and promoting the interface between universities and business, thus fostering the diffusion of knowledge. What makes the whole packages even more promising is the fact that they target the networking effects that might spur innovation, by linking the different participants in the innovation process and facilitating the knowledge flow between them. And, the emphasis of the learning society might improve access to knowledge for all people, thus improving the global knowledge stock from all directions.

Fourthly, there is a strong focus on the promotion of entrepreneurship and firm growth which shows up in almost all programmes. Also here, it seems that the main difficulties of small firms are addressed, lack of information about financial resources as well as markets, and necessary skills, especially with regard to management and advertising. Additionally, they stress the role of regulation, especially in form of administrative burdens facing small firms, as barrier to entry and growth.

Finally, the policies seem promising for stronger agglomeration and clustering of industries. For instance the role of network effects is emphasised throughout the packages. Concentration of activity in specific locations is a key idea in the Metro Strategy to induce efficient transport management as well as ensuring an equal accessibility of infrastructure and basic services. And, there is an attempt to create a more location – and expansion – friendly business environment by simplifying and cutting business taxes, by promoting a regulatory environment that enables the conditions to be right and the reduction of public intervention.

... And in the Right Way

The programmes aim to address the real weaknesses, *i.e.*, start with market failures, instead of solely treating the symptoms. For instance, they take into account that low innovation might result from market failure on the part of financial markets as well as from weak university-business relations. Thus, the packages are designed to not solely deliver financial support to the firms in the form of project support, but to promote private initiatives for investment into business research and the necessary capabilities of firm.

Secondly, both the choice of the programs as well as the way they are implemented stress the role of the market process itself and, as a consequence, reduces the intervention of government to the role provider of information and intermediary. For instance, the Ministry of Small Business seems to see itself as an intermediary facilitating entry and performance. Instead of pure direct intervention in the form of financial support, the government programmes are rather aimed at linking firms to the relevant information sources like incubators, financial resources and actors dealing and facilitating bureaucratic issues. And, the policies aim at indirectly fostering competitiveness instead of huge subsidisation to specific industries.

Thirdly, the planned programme packages stress co-operation. This is not only implemented by the objective to link firms to other firms or to research institutions. Even more, for instance the Ministry of Small Businesses itself co-operates: it builds councils of representatives of small firms and experts on small business issues which act as information source and consultants for government. And, the Ministry works together with different government departments and associations.

To some degree, policies of different government levels complement each other without leading to a duplication of support. For instance, the innovation package concentrates on the support of technology diffusion and commercialisation of R&D by grants and other non-tax form of support. This constitutes a good complement to the existing R&D-programmes at the federal level which is according to the SBTRC (2001) almost solely based on deductions from income tax.⁵⁰ Introducing such different forms of support at the state and local level might be the right choice for two reasons: it is the state or the regional level which has the better information on the innovation needs of firms. Thus, using non-tax instruments at the state level might ensure that the assistance is channelled to projects that would not have occurred without assistance. And, the State lacks the broad tax base of, for instance, an income tax. Thus, tax deductions for innovation would introduce a further distortionary element.

Fourthly, the policies are designed and meant to be implemented in the form of policy “packages”. This has the advantage that several issues are addressed at the same time, since – as is the case for small businesses – one policy might indirectly strengthen the effectiveness of another policy. For instance, the Growing Victoria package stimulates the creation of knowledge and the expansion of firms, but also delivers the foundation for the availability and accessibility of basic infrastructure as well as modern information and telecommunications technologies for the whole society. This might not only directly spur business activity, but might also have indirect positive effects in the future.

A promising integrative local programme is the Docklands’ redevelopment. Firstly, the vision, and the plans for the massive redevelopment project of the Docklands are most impressive: Old piers and quays are regenerated to a higher value, modern use. Land use is planned for mixed use by residential, commercial, sports and leisure activities as well as access by the public. Guidelines are adopted for high quality urban design, together with the commitment to urban art and imaginative public space. High standards are set for water reclamation and environmental quality in land, water and building design. And, there are imaginative transportation plans to connect the waterfront area to the CBD, and to the city and suburban mass transit network.

The development of the Docklands concept will strengthen the important CBD functions of Melbourne – office, retail, leisure and entertainment. It will provide an important new residential area for the CBD, and will support other goals of the Metropolitan Strategy such as bolstering retail in the CBD and, by attracting residents who work in the CBD, easing the pressure on commuting traffic. Docklands allows for development of potential new industry sectors, with construction of smart buildings and in-place high technology infrastructure. And perhaps of highest value, this development will give Melbourne, and the state of Victoria, a visionary and very attractive “window-on-the-waterfront”, that will provide a new image of Melbourne, and be a major boost to the tourism industry for the city and the state as well as an additional attraction for corporate and business location.

Also the Metro Strategy takes into account that in order to tackle the upcoming challenges for transportation a package of policies has to be introduced which includes an extension of the main road and rail infrastructure as well as an extension and improvement of the existing public transport system. It emphasises that an increased supply of infrastructure itself is not sufficient for a long-term effective transportation management. The proposed strategy attempts to create or increase incentives

to use the bike or even to walk more often instead of using the car for every short trip. Having in mind the experience from recent campaigns to reduce the use of water resources this attempt might be successful – if the people are given the right price – and incentive signals.

Finally, one has the impression of sound public financial management in the sense that there is enough finance to implement the various policy programmes. For instance, the Treasury aims to introduce a comprehensive package while committing itself to do this without raising new debt. In general, the indirect approach of facilitating information access instead of direct financial transfers may be again advantageous.

Further Possibilities for Improvement in the Detail

Nonetheless, the analysis of the strengths and weaknesses of the Melbourne and the Victorian economy raises the question whether all the right issues are addressed and whether the intervention is really at the right level. Firstly, some of the policies may not go far enough. For instance, in the Strategic Audit, the emphasis is laid on firm growth. It is however not clear from the description how exactly this will be done. Rather, one has still the impression that only the entry of firms is fostered. It is also important however to improve firm growth in order to enable the critical mass needed to undertake R&D and other productivity enhancing measures, and to become competitive with big players in the international market.

Problems might arise from an interaction of different policies and objectives. Related to the question of entrepreneurship *versus* firm growth, care should be taken that fostering entry does not impede firm growth. For instance, it might be reasonable to reconsider increasing the threshold level of the payroll tax. This threshold was introduced or even increased during the recent tax reform in order to support entrepreneurship. It thus takes into consideration that firms face not only problems in the start-up phase, but also in the directly following growth phase due to low after tax returns and low resources to deal with administrative burdens that result from the tax. In that sense, an increase in the threshold level might be a way to address one of the main weaknesses of the Melbourne economy, *the lack of critical mass and low firm growth*. And, it might be supportive of further location of firms in Melbourne, since it reduces the average tax – the main criterion for firm location.

However, due to the break in the tax rate that has been introduced by the threshold, firms with a payroll slightly above the threshold level might have a lower after-tax return than they had before the increase in their payroll. This then might create a disincentive for firm growth. Although there is no

clear empirical evidence for such a direct effect of the threshold level on firm expansion, the empirical result concerning the firm size structure give some indication for it as well as the fact that firms perceive the tax burden as the main obstacle for firm growth, but not entry.

It might thus be reasonable – as it has been recommended by the review Commission for the Reform of the business taxes [SBTRC(2001)] – not to increase further the threshold level. Rather, it might be reasonable to think about introducing a new payroll tax without threshold but with a lower marginal tax rate for all payroll groups. If it were still to take the problems of SMEs into specific consideration, this could be done by a very low initial tax rate but with a smooth rate of progression. And, despite the fact that the proposed solution would result in higher average taxes for the lower payroll groups than before, this does not necessarily create an impediment for location. On the one hand, small firms might have to bear only a relatively small increase in the average tax as compared to the threshold version.⁵¹ On the other hand, firms with a payroll above the previous threshold level might even benefit from the new smoother tax structure with a lower tax rate per payroll unit. Thus, in contrast to expectations, giving up the threshold level might even lead to more location of big firms from abroad than would have been the case with the threshold version of the payroll tax.⁵²

With regard to firm growth, it seems that there is still some room for promoting agglomeration and the co-location of inter-related industries.⁵³ It might be reasonable to build up a collaborative research competence centre with international first class knowledge in specific fields. This could build on the potential in form of human and knowledge capital that is present in Melbourne. Co-operation between different players such as firms, universities or research institutions, consultancies as well as private-sector or public institutions providing financial resources would be favourable. What is important, is to address the international orientation of research and production instead of focussing only on Victorian markets. For instance, this could be achieved with the right research infrastructure that may attract researchers from abroad or induce those who went abroad for education or work to come back. And it would also attract further firms to do their R&D in Melbourne.

For the introduction of centres of excellence, pilot-projects may help. And one easy way would be to extend the Melbourne webpage on “precincts” so that these do not only include the tourist attraction of Melbourne districts but also potential precincts like machinery and equipment, health services and related industries, biotechnology, etc. In that way firms abroad could get to know about the innovation and science landscape of Melbourne. Items that should be mentioned are the

specialisation of the precincts, the knowledge and research infrastructure including universities, TAFE-institutes and public or private research institutes, the transport and the ICT-infrastructure as well as the business environment in form of cultural events, etc. This would show “the world” that Melbourne is not only a good place for traditional production but that there are niches and the necessary research infrastructure for high quality research.

Thirdly, there is still room to improve the market-orientation of the policies, *i.e.*, to send out the right signals for private initiatives. This is especially the case in infrastructure. An efficient transportation management would be achieved if the prices for the infrastructure revealed the real costs of construction and maintenance as well as the costs of the use of infrastructure each user creates for others. It applies however also for the other areas, for instance water supply and demand. Additionally, concerning ICT-infrastructure, stronger use of ICT infrastructure might be indirectly spurred by introducing more competition in the competitive element, the services market. Additionally, the example of Melbourne might be useful to initiate changes in regulation at the federal level. Thus, it might be reasonable to think about ways of introducing more competition there on the part of the state and local government.

In this respect, a programme package could be thought of similar to the one proposed by Cutler and Co. (2002: pp. 27). One main element would be to “actively promote an open access regime”. Thereby, the Victorian Government could provide easy and ready access to relevant physical Government ICT-assets in order to encourage infrastructure investment and reduce investor risk. This would be complemented by the introduction of three institutions to foster the extension, accessibility and usage of the ICT-net as well as the co-ordination of different inter-related activities. The “Municipal Broadband Infrastructure Trust” would represent the financing vehicle for the rollout of shared infrastructure, involving different stakeholders like local governments, major user groups such as industrial or logistics precincts, and private sector providers. A “Broadband Applications Promotions Office” as a unique administrative capacity could encourage awareness of the benefits and application of broadband functionality. And a “Broadband Taskforce” could be a crucial instrument to co-ordinate activities and initiatives of different government levels and stakeholders.

Fourthly, an increase of private initiative has to take into account the trade-off between private and public investment as well as the complementarity of both for each other. For instance, it was correct to privatise universities and to move towards a stronger commercialisation of university research and education. However, it has to be kept in mind, that –

despite their appeal – a concentration on solely private initiative without state funding of basic research might lead to a neglect of basic research in universities. Indications are already present in the form of a decreasing share of R&D by government as compared to business R&D. The danger is a situation where universities concentrate on short-term revenues instead of the future. And, purely private finance without complementary finance by the government might lead to a biased selection of disciplines by students towards high-income disciplines like business administration and law but at the cost of science, engineering and research degrees. This might hinder the role of Melbourne as a research base in specific industries. Therefore, the concentration on business R&D and the interface between business and universities might be too short-sighted and might be in the end at the cost of basic research and disciplines that would be necessary to increase the global knowledge stock in the future.

Finally, despite the attractiveness of splitting policies into several small programmes where each of them addresses a specific issue, this may result in too many different programmes which may again counteract the transparency already achieved.⁵⁴ This point is aggravated by the fact that for instance not only the Ministry for Small Business is offering programmes for SME-start-ups and growth. Additional support is offered by the Department of State and Regional Development. And, problems facing SME's are taken into consideration within the business tax system. This however concerns also the degree of communication and co-ordination of policies at the different government levels. For instance, both the state government as well as the City of Melbourne have been developing plans of how Melbourne should look like in the future, *i.e.*, the Metropolitan Strategy and the City Plan for Melbourne. While there are already initiative towards stronger co-operation, this could be further improved in order to prevent duplication of support and thus wasteful allocation.

Improving the Metro Strategy to Build on Melbourne's Assets

In order to enhance the impact of the Metropolitan Strategy on further economic growth in the Melbourne metropolitan region, we propose the following recommendations to improve the proposed Strategy:⁵⁵

Firstly, the Strategy (see Box 1) would be strengthened by a firmer alignment of the analysis of current and forecast economic and industry change, as well as the impact of demographic change, with the proposed recommendations for transportation infrastructure. Further detailed information concerning the industry structure, the location of various industries on a disaggregated level, *i.e.*, also within manufacturing, as well as the relevant markets for the Melbourne firms and their future

development are essential for a sound assessment of future transport and land use needs. Additionally, the analysis of impacts of various policies and actions should be taken more into account for the assessment of the transport and land use management.

Secondly, the concept of the concentration of activity could be improved.

- It may not be the mix of activity but rather the concentration of businesses of the same or similar type that may induce very high specialisation advantages. Additionally, co-location itself may not be sufficient for economic growth. What is crucial is that the market that will be served by each firm is large enough such that the reduced production and transaction costs from co-locating more than outweigh the transportation costs. Even more important is the easy and fast flow of information and thus the (technological) spillovers within the network.
- Having in mind the importance of a critical mass for positive overall effects from such activity centres, a too high number of these centres would risk the danger that their objective, the beneficial co-location of various services and/or industries, may not be achieved. In contrast, these activity centres might become only shopping malls with limited overall benefits. Furthermore, the strong focus on activity centres and growth corridors may imply low connectivity of fringe and more rural areas, as can be observed in several European regions. The development of activity centres and the concentration on growth corridors in the fringe areas of Melbourne may imply reduced activity within the CBD which again might weaken the role of the CBD as a main area for all types of retailing and financial services.

There is empirical evidence for each of these points: There is potential for economies of scale from agglomeration and co-location. Thereby, the co-locating firms – especially business, transportation and health services as well as some manufacturing industries – are related with each other, giving hope for specialisation advantages through clustering and networking. And, there are some indications for potential Silicon-Valley-type of economic clustering in Monash, Melbourne and Boroondora – places where main universities and precincts are located. However, several areas that should evolve as main growth corridors according to the proposed strategy do not (yet) show any indication for agglomeration or localisation. This is especially the case for the Western or South-Western as well as the South

Eastern part of Melbourne metropolitan region. The high number of existing or planned activity centres in these areas suggests that some of the proposed growth corridors are based mainly on the expectation of pure population rather than economic growth.

Additionally, the benefits from such centres and clusters are not yet fully exploited. In general, Melbourne as a manufacturing and transportation centre within Victoria and Australia, might be expected to serve a huge domestic and international market. In this respect, the proposed strategy correctly points to the potential future demand in the Asian Pacific region. Additionally, Victorian exports have been growing during the last five years at a rate that is above Australian average. However, the empirical results above indicate that the market may not yet be sufficiently large to make agglomeration and localisation advantages materialise – if they are not to be just shopping malls for the regional markets. This is even more the case since there are – according to the results – still major obstacles to be overcome with regard to co-operation and networking.

And, while the effect of activity centres and the growth corridors on the more rural areas cannot yet be assessed, it seems as if the activity centres in the outer fringe areas already may have weakened the former strong role in retail trade of the CBD. In this respect, the strategies that have been proposed within the strategic plan have to be definitive credible commitments. While growth centres are planned to be interconnected with each other and with the CBD through main road and rail links, the connectivity of fringe or rural areas through the extension and increased reliability of public transport has to be ensured. , And, the role of the CBD as one main centre for retailing and financial services has to be maintained.

Thus, options to improve the conditions fostering such concentration and exploiting agglomeration and transactions cost advantages could be:

- Specific location factors should be given such that the “right”, *i.e.*, interrelated firms, locate in a concentrated way within one area. These location factors are not restricted to transportation infrastructure – important as that may be. They include especially the necessary innovation, research and communication infrastructure that is comparable to international standards, as well as land use planning that is oriented at the specific needs of the potentially co-locating industries. And, the markets that are served by Melbourne firms have to be large enough so that firms will choose to service their markets from one single place instead of distributing affiliates across the region. According to the presented empirical results, this may best be accomplished by finding out and reducing factors hampering interregional and international export activity.

- Very strong productivity effects from existing agglomeration and localisation centres could be induced if firms not only co-locate, but also co-operate to some extent with each other or with research institutions. This would enhance the fast flow of information within the agglomeration and would thus reduce transaction costs. In that sense, it is the combination of reduced transportation costs as well as transaction costs due to a fast flow of information that makes regional concentration or clustering of industries favourable. Here, the main role for the government is as a provider of necessary information about markets and potential co-operation partners or potentially as intermediaries between different firms or between firms and research institutions.
- The regional concentration and co-operation of firms from high-productivity or high-tech industries might have a self-perpetuating effect: Due to innovations and co-operation the production costs are reduced and firms can improve to produce at international cost-competitiveness standards. The concentrated location of such industries again would attract further firms of related, probably high-productivity industries because of the availability of specific knowledge and skilled personnel. Accordingly, strategies might be to find out and reduce factors hampering the location, the expansion and the co-operation of firms from high-tech industries or industries with high potential for productivity growth as well as the fast flow of information among them or from research institutions.
- The future strategy could include a well-elaborated and integrated strategy for the Central Business District of Melbourne. While the stronger focus on regional growth centres and the development in the fringe areas is reasonable, the recent growth of population in the CBD and potential for growth in the nearby Docklands area, and especially the CBD as educational, innovation and cultural centre of Melbourne are not to be underestimated. Rather, these factors could act as a centripetal force for both people as well as headquarters of main financial and business service firms from other states or countries, and could thus induce a self-perpetuating process fostering long-term growth in Melbourne metropolitan region.

Thirdly, the possibilities for a more efficient use of existing road infrastructure via modal split facilities and especially by the introduction of road user charging could be more explored. What counts is not necessarily the availability of a broad net of highways. What really counts is whether

firms have access to transportation facilities of every kind that makes in-time and flexible delivery possible. Instead of or at least together with an extension of the highway net, fast and flexible transportation and commuting may be achieved by a more efficient use of the existing road infrastructure – especially via a subtle net of modal-split facilities that is combined with an efficiently working logistics system. According to the background reports for the Strategy and additional information, the Transportation, Distribution and Logistics Services are one of the future high growth industries in Victoria. There is thus enough potential for an efficient, highly competitive and up to date logistics system in Melbourne which again may act as attracting force for firms from overall Australia or abroad to locate in Melbourne.

One specific area where modal split facilities could lead to a strong improvement of the transportation management is the inland access of the port. The empirical results speak in favour of an introduction of so-called “inland ports”, *i.e.*, central places where freight from ships would be handled for further delivery, connected via rail – instead of road – system. Such inland ports would not only shift the heavy freight-burden out of the direct port area and thus speed up freight movement. Located in areas where there is already some indication for localisation of industries, they would additionally facilitate freight management. Firstly, there would no longer be the need for a radial system of roads from the port to the final customers. In contrast, freight would be shipped from the port itself to the inland port along a limited number of connecting routes. Secondly, and that is where the modal split comes into play, these connections between the Port Phillip and the inland ports could be in the form of rail instead of road connections. For instance, so-called cargo-sprinters already introduced in Melbourne, *i.e.*, small trains with engines on both ends, are fast and efficient means to deliver freight from the port to the inland ports.

One form of modal split that has not been mentioned in the proposed strategy are park and ride facilities. P&R-facilities might be especially useful to solve the problem of congestion and lack of parking space within the CBD. Additionally, it would have a positive effect on the “life-style” and the quality of all forms of activity within the CBD – from retailing to accommodation and restaurants. Introducing this form of modal split would thus increase the chance of the CBD to be again a centre of retailing and business services. This can be shown from different experiences within Europe, especially from German cities like Munich. There, the introduction of an efficiently managed P&R-facilities, *i.e.*, sufficient parking places in an area close to the CBD and fast public transport connections into the inner city, reduced the congestion within the inner city and made the inner city of Munich again attractive.

Even more important, all the proposed possible policies and strategies may not work if the incentives are not right, *i.e.*, as long as road infrastructure is a pure public good for both households and firms. Road pricing reduces traffic congestion, thus actually guaranteeing the free decision of commuters and transport firms to use the roads whenever they want and to deliver in time – if it is implemented in the right way. This would not only deliver further opportunities for an efficient transportation management, but may make the strategy more credible. This is especially the case since such pricing would deliver the right incentives in order to guarantee that the promising policies in the proposed strategic plan also have the desired positive effects. Having in mind the long-term development of transportation in Melbourne metropolitan region and its negative impacts, the introduction of road user charges should be considered as a main point on the agenda of objectives for a sustainable city development in the future.

Finally, for the long-term future, the real challenge for the Victorian Government will be to establish an overall Metropolitan Strategy. The proposed Metro Strategy is only a first – albeit very important – step in this direction. The challenge now lies in the alignment of the strategies of various departments of the Victorian Government as well as the concerns of local municipalities. To mention only some, this could for instance include the work of the Infrastructure Planning Council on water, energy, and transportation as well as the report on health issues of the Department of Human Services. It is only by this integration that a comprehensive Metropolitan Strategy can be developed where the economic, social and environmental problems and their interrelations are sufficiently taken into account. Such an integration of all issues within an overall Metropolitan Strategy is especially necessary if it is really aimed to lead to a prosperous and sustainable Victorian economy for the whole society. Developing such an overall Metropolitan strategy will not be an easy job, but the prospects for the Victorian government to succeed are very promising.

NOTES

1. In what follows, the analysis will focus on labour productivity as an indicator, although the more appropriate indicator for productivity may be total factor productivity. The main reason for this decision is lack of data necessary to calculate total factor productivity. Additionally, labour productivity will be

measured as value-added per worker although value-added per working hour might be the more appropriate indicator. The reason for this is to use one indicator throughout the text.

2. For an overview of location theory see Krugman (1991), Porter (1990) and Fujita *et al.* (1999). For an overview of the theory of economic growth see especially Grossman and Helpman (1991), Barro and Sala-i-Martin (1995) and Aghion and Howitt (1998). And for theoretical and empirical considerations on factors determining productivity levels see for instance Ragnitz *et al.* (2001).
3. For international comparisons of productivity levels as well as their growth rates on an industry level, see OECD (2001m).
4. For a comprehensive study on the growth effects of ICT, innovation and human capital in OECD countries see OECD (2001b).
5. With regard to the theory and empirical evidence of the role of human capital and R&D and innovation for productivity growth see Grossman and Helpman (1991), and Aghion and Howitt (1998) as well as Griliches (1998), Coe and Helpman (1995) and OECD (2001b).
6. This idea of the "optimal intensity of competition" as the open oligopoly was derived by Kantzenbach. See Bender (1988).
7. With regard to the theory and empirical evidence of networking see the literature on agglomeration and localisation advantages, especially Krugman (1991), Venables (1994), Henderson (1999) and Ciccone and Hall (1996), as well as the literature on transaction cost economics especially Williamson (1991a and b).
8. Due to the lack of data for regional deflators, the real time series have been calculated using the overall Australian deflator. This might underestimate differences in the development across the states. However, the decision is to some degree justified by the parallel development of the consumer price index in time of Sydney, Melbourne and the average over all capital cities within Australia given in diagram. Differences of the results here concerning the real time series with the ones in OECD (2001a) are due to a different base year and to the fact that the effects of the GST have not yet been taken into account.
9. Indications are given in the outward orientation of Melbourne firms described below.
10. TFI in the definition of the ABS represents that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour and capital). It represents the value added by these factors in the process of

production and is equivalent to gross domestic product less taxes plus subsidies on production and imports. See for more detail www.abs.gov.au.

11. Due to lack of data on value-added, labour productivity is measured here as total factor income per employment. This is justified since TFI is with the definition of the ABS as given above a very good approximation for value-added – at least when both measures are compared on an aggregate level.
12. The RCA index measures the export-import ratio of one specific industry in comparison to the export-import ratio of the overall economy. Thus, positive values of the RCA in one industry indicate that the respective industry has a good export-performance as compared to the average of all industries. As a consequence, the economy has a comparative advantage in this industry. The Grubel-Lloyd index measures the ratio of the trade surplus or deficit in one industry in comparison to total trade, *i.e.*, the absolute difference between exports and imports as compared to the sum of export and imports, within this industry. It decreases with increasing discrepancies between exports and imports of the respective industry.
13. See the considerations in section on environment in Chapter 6.
14. Melbourne has the second largest tram network in the world. In the course of the improvement of public transport system it is planned to further extend the tram lines into the outer fringe areas.
15. These problems are being addressed by the Victorian Government.
16. See for instance ABS-Victorian Yearbook (2001). In recent years, a broad set of new initiatives to upgrade the public transport system and to improve its reliability as well as the information on it have been introduced; see for more detail the internet page of the DOI on public transport: www.DOI.gov.au.
17. Cutler & Co. base their argument on an analysis undertaken by AHURI.
18. The localisation of specific industries and thus of clustering will be analysed in the next sub-chapter on the internal and external scale economies.
19. Due to lack of data on immigration per occupation into Victoria this analysis has to be based on the results for overall Australia assuming that the relative proportions of immigrants across occupations is comparable for all states.
20. This indicator is analogous to the Grubel-Lloyd-Index for intra-industrial trade, mentioned above.

21. For instance, in German manufacturing (including small firms with less than 20 employees) 93% of the firms have less than 200 employees while in the case of Melbourne this percentage concerns firms with less than 20 employees. (*Source*: German Statistical Office, 1998).
22. See here for instance Bhattacharya and Bloch (2000).
23. Here, we would like to thank DSTI for providing the Australian input-output-table.
24. For space reasons, the names of the areas could not be included in this map. A detailed map including the names of the local government areas is given in the appendix. .
25. By Melbourne standards the response rate of about 20% was high. It was achieved through various efforts for which we would like to thank SGS. The over-representation of manufacturers was intended in order to be able to analyse location and growth factors in different manufacturing industries appropriately.
26. The diagrams give the regional distribution of the average turnover share only from those firms that responded to the respective question. If one however assumes that the share of turnover supplied in a specific region is zero if the respective firm does not reply to the question, the values would be even lower. This is especially the case since only a very few firms stated that they have customer markets in the United States, Europe and New Zealand.
27. The focus will very much be on transportation and on telecommunications infrastructure. Firstly, one of the aims of this review is to assess the Metropolitan Strategy – which is basically a transport and land use management strategy. Additionally, the main issue concerning water and energy supply are related to the environmental effects of future economic and population growth and will as a consequence be dealt with in the respective chapter.
28. See for OECD-countries for instance OECD (2000a).
29. See Poot (2000) and Brons *et al.* (2000).
30. It is noted that the deregulation of the ICT-industries did take into account to some degree the separation of ownership and downstream market. However, the empirical results for Melbourne suggest that there is still room for improvement.
31. See for the theory and best practice of innovation and technology policy for instance OECD (1997).

32. In principle, the “systemic failure argument” can be subsumed under the “market failure” argument. The important element in the systemic failure argument is the fact that it stresses the importance of interactions which again ensure necessary pre-conditions for innovation like competition, financial resources, sufficient information. Since these conditions however result themselves from market activities, sub-optimal supply or availability of these resources is again the result of market failures, not in the direct innovation but in the upstream, for instance the financial market, or downstream product market, or market failure from incomplete or asymmetric information which prevents the networking of firms.
33. See for a good summary of the main arguments for innovation or technology policy Klodt (1995) and Müller (2001).
34. According to the theoretical and empirical literature, for instance OECD (1997), diffusion of knowledge consists of two elements. One is the process of disseminating technology embodied in equipment and the transfer of technical information and related skills to users and potential adopters. The other element is the absorptive capacity, *i.e.*, actions at the firm-level in organisation, management and marketing to acquire knowledge and technical expertise. The notion of absorptive capacity was first introduced by evolutionary economists like Cohen and Levinthal (1989). The important aspect thereby is that not only the production of knowledge and innovation is related to costs, but also the access to and the use of external knowledge, and that thus low absorptive capacity is due to low investment in activities that might reduce these costs.
35. According to OECD (1997) the most important contribution to innovation comes primarily from the embodied transfer of knowledge when researchers move from university to industry, or in form of spin-offs of academics creating their own enterprise.
36. See Tirole (1992), as well as recent articles applying industrial organization issues to the location of firms, like Zhou and Vertinsky (2001).
37. The diagram is mainly oriented towards technology-intensive firms. However, it gives some very important insights concerning support of SMEs in general.
38. Characteristics of venture capital: specific type of finance available to fund high-risk projects in young companies that are not quoted on the stock market generally involve a long-time frame, a partnership with management and returns in the form of capital gains rather than dividends. Provided by agents who mediate between the financial institutions who provide the capital and the unquoted company which uses the finance, or by business angels (private individuals) who play the dominant role in the financing of early stage (seed and start-up) investment (OECD, 1997).

39. It is noted that Boston's entrepreneurial culture is as much due to historical circumstances as it is due to public policy at the state level. This might limit the applicability for Melbourne. However, the argument here is not to see Boston as the sole comparator for Melbourne. In contrast, the considerations in Chapter 7 will show that also Boston can learn something from Melbourne. Thus, the aim here is rather to show that Melbourne might improve upon its achievements until now by adopting a more risk-taking attitude.
40. The planning and implementation framework for policies impacting on the land use for the City of Melbourne is constituted in the Metropolitan Strategic Statement Review Report (MSS Report).
41. From the report is not clear what is exactly meant by design. From the description in the overview it however goes further than simply meaning the design of product but seemingly encompasses also the design of policies and public services.
42. The Department of State and Regional Development of the Victorian Government is now named the Department of Innovation, Industry and Regional Development. Since this review refers to several documents that have been published before the change of the name of the department, the review will use throughout the old name.
43. See for more detail the considerations in Chapter 7 – Public Finance.
44. Since the Intergovernmental Agreement (IGA) was signed in 1999, the financial relations have been changed significantly. Financial assistance grants and revenue replacement payments that have been previously paid by the Commonwealth are replaced by the GST revenue and transitional payments. Additionally, several State stamp duties and State debits tax ceased in July 2001. Due to the relativities set for the distribution of the GST revenues, Victoria will only receive 83 cents each dollar. The effect of the introduction of the GST on state finances will be analysed in more detail in the chapter on Governance and Public Finance.
45. It established an independent committee, the State Business Tax Review Committee, to undertake a comprehensive assessment of Victoria's business tax system since 1983. This committee consisted of five leading representatives of business consultancy services, chamber of commerce and university, each with experience in tax policy design or implementation. The commission process then consisted of a thorough general and theoretical analysis of the existing tax system as well as consultation survey among businesses.
46. Melbourne Docklands 2000+. See also www.docklands.com.au, for recent press releases on development plans of each precinct and the infrastructure.

47. Statement of the Hon. John Pandazopoulos, MP, Minister for Major Projects and Tourism in Docklands (2001).
48. Minister John Pandazopoulos, MP, *op. cit.*
49. At the time of writing it has to be noted that the Metropolitan Strategy was in its final-drafting phase.
50. Thereby, the current arrangements are a 125% deductibility of qualifying expenditures, including both revenue and capital outlays.
51. Furthermore, one has to take into account that there are additional ways to enable firm location and start-ups than tax concessions, some of which are already introduced in the various business and start-up programmes.
52. In general, the future discussion of the reform of business taxes should be in the direction of substituting the payroll tax by a tax that delivers a broader tax base and which is less distortionary – especially a tax that does not distort the investment or the employment decision by taxing only one production factor. The theoretical literature proposes some form of turnover or value-added tax. See here, Richter and Wiegard (1990). This could also be achieved by introducing more tax sharing elements.
53. With regard to agglomeration, the discussion of the Metro Strategy below gives some further recommendations.
54. For instance, both the City of Melbourne as well as the State Government use extensively the internet as information source.
55. Here again, these recommendations are based on the draft-Metropolitan Strategy.

Chapter 5
**Housing, Labour Markets and Social Cohesion
in Metropolitan Melbourne**

This chapter examines the three inter-related issues of housing, labour market conditions and social cohesion which constitute along with Chapter Six on Health and Environment, the “liveability” of Melbourne. In addition to its intrinsic value, liveability is considered by the OECD to be a key factor of the competitiveness of urban areas in a global economy.

Housing

Housing Policy and Processes

The housing system is a pivotal element in any major urban economy. Housing is central to the built environment and land use and therefore characterises both what a city looks like and its general environmental liveability. Housing conditions and quality are recognised to have important impacts on health (both physical and mental well-being) and safety, neighbourhood quality and labour productivity. The physical transformation of the built environment is often led by housing development, redevelopment and clearance. Housing market performance, affordability, volatility and market responsiveness may create both constraints and opportunities that directly alter the attractiveness of cities as places to live in, to work in, and to attract international and domestic investment. Cities, as collections of successive interdependent residential neighbourhoods, confront a hierarchy of declining and gentrifying areas that have to be considered as part of a wider socio-economic system.

Housing Policy

As a starting point it is important to stress that levels of investment, broad affordability, housing quality, housing choices and the level of transactions costs do not, in general, suggest major short run problems in Melbourne that might be apparent in a European or North American city-region. However, there are a number of sectoral and spatial problems that, if left unchecked, may lead to serious problems in the longer term. In a market-based and reasonably flexible system, the housing market may itself, in the longer term, tackle what appear to be intractable problems because changing land values create incentives for developers, investors and

consumers. On the other hand, it may over time reproduce the sprawl and price gradient of Sydney on a smaller scale in Melbourne.

The main housing policy challenges for Melbourne are to:

- increase housing affordability in certain sectors and spatial segments of the region;
- improve the performance of the private rented sector, particularly in the low cost segments of the market;
- find ways to dampen the volatility of the Melbourne market both in aggregate and in particular locations;
- in a maturing housing market, examine ways to protect housing quality and individual investments among older owner-occupiers;
- identify local markets within Melbourne that have lagging property values and produce strategies to counter the consequences;
- maximise the benefit from Commonwealth housing policies;
- examine the feasibility of alternative or additional models for providing low cost rental housing.

In broad terms, a metropolitan housing system is shaped by a number of factors. The structure of the local economy, sectorally and spatially, is of course very important. Second, the standing stock and the wider built environment, encapsulating the history of housing development, typically dominates the housing system in terms of choices and environmental conditions. Third, at the margin, new development, current and anticipated housing policies, plus the main economic and social drivers of housing affect contemporary household decisions. Fourth, the legal, institutional and regulatory framework for allocating, funding, investing in and consuming housing sets the main parameters for the operation of the housing system. Several of these factors have spatial dimensions involving the interplay of structural and policy variables that are determined or led at the national or even global level with factors that operate at the regional, metropolitan or intra-urban level. In this section, we draw on evidence to examine how national, regional and local factors are shaping the contemporary Melbourne housing system.

Housing in Australia

Australia, compared with other OECD countries, has a comparatively high level of owner-occupation and very little social housing apart from a small residual public sector (Table 5.1 shows the proportions of the tenure distribution for Melbourne, Australia and some comparators). Construction is a private sector business as is the largely deregulated process of housing exchange. The suburban detached home remains the provision (and aspiration) for the great majority of Australian (and Melbourne) households.

Compared with most European countries, Australia has relatively little government intervention in the housing market, relying mainly on federal taxation/subsidy policy and fairly benign planning and building control regulations. As in the United States, where comparable policies and processes pertain, the housing system relies on adequate housing finance, anti-discrimination policies, elastic supply responsiveness to changes in demand, and complementary policies that allow mobility, accessibility, easy commuting to activity centres and the like. The extent to which these requirements are met in practice is a key point for discussion throughout this chapter.

Table 5.1. **Housing tenure, percentage of total households**

Place/year	Owner-occupied	Private rental	Non-profit or co-operative	Other
Melbourne (1996)	72	21	4	3
Australia (1996)	69	21	6	4
United States (1988)		36	2	
United Kingdom (2000)	67	9	24	
France (1990)	47	28	17	

Source: Burke and Hayward, 2000, Table 1 plus updated figures.

Australia's home ownership rate rose rapidly after the war and has, since 1960, fluctuated around or just below 70 per cent. For most Australians, their apartment or house is their principal asset (Wulff, 2000) and through outright ownership reduces current outgoings in retirement. However, the greater uncertainties of the deregulating labour market, changing partnering and parenting trends and more varied housing careers have led to new housing requirements which are not always best suited by the traditional home ownership model and its detached suburban home (Winter and Stone, 1999). It has also been argued that the documented decline in home ownership rates among young Australian households reflects constraints as well as lifestyle and other housing preferences, in

particular, a lack of affordability, especially in Australia's major cities. The implication is that new and increasing demands will be put on the private rented sector. *Yet this is a sector where there appears to be a growing mismatch between the number of cheaper units available and low to moderate income demand* (Wulff, 2000).

Table 5.2. Gross fixed investment in residential buildings as a percentage of GDP (selected years, 1970-1996)

	1970	1975	1980	1985	1990	1996	Average 1985-96
Germany	6.7	5.8	6.8	5.5	5.6	7.3	6.3
Canada	4.1	5.6	4.7	5.4	6.3	5.0	5.9
Japan	7.0	7.6	6.9	4.8	6.1	5.8	5.6
Australia	4.9	4.9	4.9	5.1	4.9	4.4	5.0
France	6.7	7.3	6.2	5.5	5.3	4.4	5.0
New Zealand	—	6.6	3.5	4.5	4.7	5.6	4.8
USA	3.8	3.5	3.9	4.6	3.9	4.2	4.2
UK	3.2	3.9	2.6	3.4	3.9	3.0	3.5

Source: Wilcox (2000), Table 8 based on OECD *National Accounts*.

Housing investment in Australia, taken over time, holds up well comparatively (Table 5.2), averaging 5 per cent of GDP between 1985 and 1996. However, residential investment is volatile. This volatility is also evident in Victoria and Melbourne. Housing policy in Australia has distinctive features. First of all, in a context of relatively little governmental intervention, most policies originate from the national Commonwealth Government, not the State or local government. The most important policy instruments are *taxation policies* that broadly favour or discriminate against specific housing activities such as investment, construction, use, ownership, sale, etc. At the same time, there are *regulatory policies* designed to enable the mortgage market to perform and *limited subsidies* exist such as the temporary First Home Owner Grant that provides A \$7 000 to first time buyers purchasing second hand homes and A \$10 000 for first time buyer purchases of new homes.

All of these policies are *spatially invariant* and take no account of different housing cost regions. The same is true of the main policy aimed at helping meet the housing costs of low-income households, the *rent assistance* package targeted at poorer renter households, regardless of whether they live in high cost Sydney or inexpensive Hobart. There is, however, some interaction between housing policies and social security policies, for instance, benefit claimants are discouraged from moving into an area of high unemployment. While State governments run public housing,

they rely on four-year Commonwealth Housing Agreements that provide resources for housing they manage. Apart from the State's capacity to influence new development through planning mechanisms, *there are few active policy levers to influence housing at levels below the Commonwealth Government, especially in the dominant private sector.*

Public housing, though in short supply in Melbourne, does keep its costs down through flat rent to income ratio rents but this is both subject to the continuation of the (limited) Commonwealth public housing programme and to investment demand on resources to maintain and upgrade maturing public stock (a priority of the Victorian State Government). Private tenants rely on demand-side rent assistance programmes (it is estimated that 45% of private tenants receive means-tested benefits). This is a mean-tested allowance that pays a proportion of the gap between a minimum rent and a threshold maximum, subject to an income taper and varied by household circumstances. It is non-spatial and takes no account of regional variations in housing costs or, indeed, of incomes.

There are a number of implications for Melbourne's housing:

- The Melbourne economy has undergone major change in the last 20 years or so, shifting away from manufacturing, undergoing a major recession and recovery, and exhibiting distinct spatial patterns of economic, social and physical change, broadly to benefit the central areas, which have also benefited from huge public investments. Mirroring the national picture, income and wealth polarisation has increased. The local housing system is likely to both reflect and be influenced by these trends.
- Australia can be characterised as a largely privatised housing system dominated by owner-occupation but with evidence of pressure building in the private rented sector where there appears to be insufficient low cost stock to meet potential demand. Melbourne has very high levels of home ownership and rental affordability is likely to raise issues in the CBD area.
- Policy levers are largely aspatial and operate at the national level through fiscal means. It is consequently difficult for State level or local policy-makers to respond directly to localised housing difficulties or segmentation of markets.

The Melbourne Housing System

Households and Demand

Households are the raw stuff of housing demand. Longer-term trends in household formation, age and type and moving propensities are therefore important determinants of demand. In the 1990s, Victoria and Melbourne have experienced sustained household growth, a reduction in the size of the average household, and an ageing of households. Burke and Hayward note that when examining household change in terms of realised moves the growth in each household category is associated with moves into apartments and flats and away from detached homes. Most moves are local and build on existing social networks. Even though average household size is falling this has not been reflected in smaller home purchase or in smaller new build. Instead, space consumption per person has grown rapidly. The demand for apartments reflects both affordability constraints combined with the desire to live in specific (often central) neighbourhoods.

Melbourne's high level of home ownership masks other trends identified by housing commentators. First, private renting is increasingly playing a long term rather than merely a transitional role for aspiring homeowners. This reflects preferences as well as difficulties in accessing mortgage finance in a context of job insecurity and labour market flexibility. There is evidence of a property investment response to this trend but it is in the form of higher cost rather than affordable new private renting. Second, strong spatial patterns and differentiation in house prices and transactions may generate spatial inequality and exclusion over time, which can be a cumulative and reinforcing process (Meen, *et al.*, 2001). The home ownership experiences, in short, can be vastly different and, in less advantaged neighbourhoods, be far from the homogeneity of the Australian dream. These issues are discussed below.

Affordability

Affordability may be measured in simple or complex ways, it may involve directly observed measures or artificially constructed indices. Burke and Hayward (2000) use three measures:

- A simple ratio of incomes to house prices (median house prices relative to a construction of Victoria household income derived from summing male and female earnings).
- A construction of the mortgage payments required to purchase the median price dwelling as a proportion of average earnings

(assuming that mortgage payments cannot exceed 25 per cent of earnings and that only 90 per cent of the value would be mortgaged).

- A rental affordability measure based on social security income thresholds (*i.e.*, that up to 30 per cent of income spent on rent is affordable for an unemployed couple with two children) in order to assess the impact of rent changes on affordability across space.

The simple house price to income ratio suggests that between 1974 and 1999, the ratio has averaged 3.5, peaking at just over 5 in 1989, falling back until 1996 when it has since increased yearly to as much as 4.6 in 1999. Burke and Hayward use spatially disaggregated house prices with the same income variable (Victorian-wide average earnings summed from separate male and female earnings series) to map out the changing affordability of Melbourne's suburbs. They conclude that comparing 1979 and 1999, the inner and middle ring suburbs had become much less affordable while outer suburbs became more affordable, leading to "Melbourne's housing market [becoming] much more polarised than at any time in the last thirty years". Of course, this analysis wholly relies on variation in house prices (by definition, incomes are spatially invariant) – it remains to be proven, therefore, whether true affordability (in terms of prices, housing quality and incomes) has changed across Melbourne by as much, more or less than by this account.

The mortgage costs affordability measure takes account of movements in interest rates, as well as house prices, but imposes credit constraints in the form of maximum repayment and loan to value ratios. Looking at a series from 1974 to 1999, Burke and Hayward conclude that metropolitan Melbourne as a whole is historically now very affordable with a ratio of around 30 per cent of average earnings. Levels of affordability are then computed for hypothetical levels of income with typical credit constraints, relative to the numbers of properties "available" that would be affordable. This is an attempt to illustrate how affordability levels vary by income band and indicates that the supply of available "affordable" housing rises with income – as one might expect.

The rental affordability measure defined above is really an estimate of the extent to which rent assistance policies can meet a simple affordability threshold. On this basis, all Melbourne sub-areas are unaffordable (everywhere, more than 30% of income is required to meet median rents) but there are marked spatial differences. Inner areas require 60 per cent of income for a flat and 84 per cent for a house. Again, these measures reflect variation in housing costs not in incomes *per se*. Thus, what they provide is

evidence on the spatial polarisation of median housing costs not of income (although in this case, low income dependence on means-tested benefits implies that this is a more useful measure of income affordability). Arguably, a more useful numerator might have been the bottom quartile of rents rather than the median, given that there is likely to be quality sorting of low-income tenants into the lower end of the sector (although this depends on available supply).

Overall, there is not much direct evidence on affordability although there is considerable evidence on the spatial patterns of housing costs, prices and rents. The absence of comparable information on incomes (and on housing standards or quality) or on direct survey measures of affordability makes it difficult to come to balanced conclusions below the Metropolitan level of aggregation.

Housing Market Outcomes

Most of the housing market analysis draws on data analysed by Burke and Hayward, who use the population of all legal transactions in Victoria collected by the Valuer General. Throughout they focus on median house prices which is a reasonable way to overcome problems with outliers but cannot of course, tell us anything about changes in the mix of properties sold in any year or neighbourhood. Median real house prices have experienced peaks in 1975 and in 1989 and are again undergoing a sustained upturn (since 1995). There were long declines in the late 1970s and early 1980s and also after the 1989 peak. Median real prices in 1999 returned to the peak 1989 value (see: Burke and Hayward, 2000, p. 39, Figure 9). Since 1999, the property market in Melbourne has been very strong in many areas. However, aggregate trends mask significant change going on at the neighbourhood or suburb level. Between 1990 and 1999 many suburbs experienced real price falls of more than 10 per cent while many others experienced real increases of more than 50 per cent. Typically, the former were in the outer suburbs and the latter were in the inner and middle suburbs (see: Table 5.3.).

Burke and Hayward analysed the bottom and top twenty suburbs measured in real median house price levels for 1979, 1989 and 1999. They argue that this is indicative of the social and spatial polarisation of Melbourne and the fundamental restructuring of the metropolitan housing market. They note:

- The increased importance of inner areas in the top 20 and parallel changes for outer areas in the bottom 20.

Table 5.3. **Change in real median house price, bottom and top twenty suburbs, 1990-1999, % change**

Bottom 20 (name)	Bottom 20 (% change)	Top 20 (name)	Top 20 (% change)
Milgrove	-29	Port Melbourne	87
Attwood	-28	Albert Park	76
Crib Point	-26	Middle Park	75
Tyabb	-25	Melbourne	69
Frankston North	-24	Richmond	63
Safety Beach	-23	Abbotsford	61
Narre Warren North	-22	McKinnon	61
Melton South	-22	Yarraville	60
Hastings	-21	Moonee Ponds	60
Woori Yallock	-21	Sandringham	59
Beaconsfield Upper	-21	Bentleigh	56
Cranbourne	-20	Williamstown	56
Doveton	-19	Northcote	54
Rosebud South	-18	Glenhuntly	54
Tootgarook	-18	Brunswick East	53
Coolaroo	-16	Balwyn	53
Healesville	-16	Brunswick	53
Dromana	-15	Black Rock	53
Rosebud West	-15	Elwood	52
Werribee	-14	Caulfield South	52

Source: Valuer General's Property Statistics, reprinted in Burke and Hayward, 2000, Table 10, p. 40.

- In 1979, suburbs more than 10 km from the CBD accounted for 50 per cent of the highest 20 priced suburbs; in 1999 there were only three
- There are now no inner city suburbs in the bottom 20 even though in 1979 there had been five.
- The housing market has acted to accentuate the spatial polarities being created by labour market change – areas with high incomes have also experienced high house price gains and thereby increased the personal wealth of existing owners while at the same time reinforcing exclusiveness by making entry to these markets less accessible.
- Home ownership, therefore, may be becoming a force for and not against social and economic division.

Supply, Planning and Development

Although any housing system will be dominated by the existing stock of housing, the incremental change brought about by new supply, clearance and physical redevelopment makes a considerable impact on a metropolitan

housing market. Land development in Melbourne is concentrated between only three of four major developers, one of whom, the Urban and Regional Land Corporation (URLC – a public body whose mission includes price mix and brownfield regeneration), has brought forward up to a fifth of the annual supply of land for housing (more recently, 10%). The potential for policy impact of a major public land developer should not be discounted. However, the market share of a developer in terms of its contribution to allocated land supply does not tell us whether the development market is competitive or not. The key questions there relate to the ease of entry and exit from the market (its contestability) and the market shares of developable land (each developer's bank of potentially productive land). We do not know the answers to these questions but that does not mean that we should simply infer monopoly power on the parts of the incumbents, despite their large market shares in Melbourne.

Construction is a traditionally more competitive market, composed of many small businesses, reliant on sub-contracting. Victoria is estimated to have 8000 builders, with 80 per cent of all work coming from sub-contracting. Only a quarter of the industry's output comes from firms that operate in more than one State. Traditionally, the firms have concentrated on the urban fringe working to price-competitive tenders and building single story detached homes on quarter acre blocks. In the period after the late 1980s, as a result of planning building control changes that reduced plot size in order to control infrastructure costs, there was a significant shift into much larger two story pseudo-mansions. This has also led to a rash of conversions, adding second floors. Many commentators refer to this development as the "suburban planning problem".

In the last 10 to 15 years there have been other significant developments in residential construction built form:

- On the urban fringe, larger planned community-scale developments on greenfield land.
- Throughout Melbourne, medium-density development increased but, since the mid-1990s, this has been most pronounced in the inner areas, Eastern and Southern Melbourne.
- Speculative development of higher density housing and apartments constructed using direct labour by new firm entrants often associated previously with non-residential construction, utilising these construction methods in their new housing projects. Burke and Hayward argue that Melbourne now has a large and diverse industry capable of producing multi-unit apartments.

- Multi-unit developments tend to be in the inner city and mid-suburbs, the builder is also likely to be the developer and it is more likely to be speculative. Typically, such projects will involve reclamation of industrial land, in-fill sites adjacent to established neighbourhoods – hence the controversy and calls for tighter planning regulations from existing neighbourhood community representatives.

The land planning regime encouraged this form of building at the same time as major infrastructural expenditures and place marketing were taking place in the city centre of Melbourne. Changes in the spatial patterns of housing price change and neighbourhood succession and decline benefit primarily central and mid-suburbs. Burke and Hayward argue that Melbourne is now spatially polarised not just in terms of house prices and rents but in terms of built form.

The older stock dominates the housing system and, in the suburbs, it remains of the classic detached single story variety. It is at the margin that higher density and multi-unit housing, particularly in the more dense central and inner suburb areas, that change is increasingly noticeable. However, relative price changes across neighbourhoods create opportunities in the areas with lower prices as well as for those with rising prices. Filtering processes of housing and household change will bring new consumers into neighbourhoods. At the same time, however, particularly in older neighbourhoods, housing quality issues will make properties more marginal in terms of their sale-ability. In short, it is an empirical question as to whether the moving apart of neighbourhoods and the concentration of new development in the “successful” areas is a permanent or shorter-term phenomenon.

Housing and Ageing

Many of Melbourne’s suburbs are characterised by older established residential neighbourhoods where the average age of the owners is rising rapidly. Two in five homeowners possess outright ownership across Melbourne and for older residents, this proportion is much higher. Although housing quality levels are comparatively very high in Australia, in relative terms, this mature housing stock needs to be of a high quality to offset the advantages of new build or more modern properties in other parts of the region. However, maintaining properties for older households is an endemic problem, especially where there are fewer resources that can be committed privately and where, increasingly, children have their own well-established housing career elsewhere. *This issue will become more important because of*

the ageing of the population on the one hand and the wider problems of declining property values in many of the same neighbourhoods.

The Australian Housing and Urban Research Institute (AHURI) expresses concern that several of Melbourne's suburbs are experiencing falling property values and rents, declining property quality, difficulties selling property and growing volumes of formerly-owner-occupied stock transferring to the rental market. If demand is slowly vanishing from these suburbs and they are "at risk", a key question is: how might policy-makers identify potential risky areas and what considerations should they reflect on when examining what can be done?

Private Renting

Demand for private renting has increased in Melbourne in the last 10 to 15 years and there is evidence to suggest or infer that there has been a corresponding supply-side response, which has dampened the metropolitan-wide increase in rents. Using data collected from newspaper adverts (rents at the margin) Burke and Hayward found that rents, while rising slightly overall in real terms, have risen rapidly in inner areas compared with outer suburbs. The high level of supply at the upper end of the market appears to be putting downward pressure on rents in the upper quartile. The spatial patterning of the private rented sector is consistent with what we have already seen reported for the owner-occupied sector. In other words, both the rental and owner markets are operating in the same direction in terms of their spatial impacts.

Following the methodology developed by Judy Yates at the University of Sydney, the stock is categorised as low cost and non-low cost and then compared with demand from lower income rental households between 1990 and 1999. Yates found that:

- While the private rental sector grew overall by more than 32 per cent, the low cost stock fell by 8.5 per cent.
- At the same time, the number of low-income renters grew by 64 per cent.
- Around 40 per cent of the low cost stock is inhabited by non-low-income households.
- Converting these figures into net balances, Hayward and Burke estimate that in 1996 there was a shortage of around 10 630 units or 40 per cent of the current low cost stock.

- These shortages are worst in inner Melbourne areas as a result of gentrification. There have also been large increases in southern areas (Dandenong and Frankston) and may reflect falling property values and the conversion of owning to rental stock.

Implications

A number of key points emerge from the foregoing discussion:

- It appears that there is a significant cleavage between the growing inner areas of Melbourne, areas that also benefited from massive infrastructure and other complementary investments, and some of the outer suburbs, which are more likely to have falling house price trends, expanding low cost private renting and other symptoms of widening spatial inequalities (although the pace and extent of this is debated). At the same time, a number of outer suburbs are the locus of higher priced developments.
- At a more systematic level, there appear to be two different processes underway. The housing market supply-side is prone to cyclical shocks and such volatility will have spatial impacts because of the specific local demand and supply configurations found in different parts of Melbourne. However, the housing system is also an important source of and manifestation of structural change occurring to Melbourne's economy, social and demographic variables. When considering the dynamics of the housing system it would therefore be useful to consider and seek to isolate structural as opposed to cyclical tendencies.
- The other major process that appears to be important is what one might call geographical momentum. In Melbourne's case, investment and new housing opportunities become available in already (largely) desirable inner city areas and this attracts further demand and investment away from outer areas. As the gap between the two grows and is sustained, the process builds on itself and, as a by-product, deepens social and spatial exclusion – lower income groups are barred from the centre by housing costs and the relative attractiveness of most, but not all, outer areas diminishes and this in turn accelerated by falling relative prices.

The most disadvantaged in Melbourne are eligible for public housing. We have seen that public housing is relatively small in Victoria and its funding and investment depends upon Commonwealth Housing

Agreements. Public housing is viewed by the Federal Government as welfare housing and its financial support has increasingly shifted to rental demand-side assistance in the private sector. It is also evident that public housing locally is under pressure because it is viewed as a negative externality diminishing the likelihood of success of joint property ventures between the public and private sectors. As a result, the State Housing Policy Office is forced into concentrating its efforts on defensive investment in its existing public stock, which does not increase the supply of affordable housing.

The smallest sector of the Melbourne housing system is the *not-for-profit or community social housing sector*. Across the OECD, there are many examples of thriving large-scale or niche models of tenant-led or community-based social housing for rent, ownership or part-ownership. The basic requirements for these models (and they vary considerably in the details) include:

- a solid legal base for the organisational form;
- a balance between firm regulation and community/tenant accountability;
- a financial model or framework that allows equity or debt finance, below market but financially viable rents and, usually, some element of subsidy;
- a combination of professional and voluntary expertise and willingness to work together;
- a spectrum of public to private organisational forms is possible.

Melbourne commentators suggested that with a few exceptions, it is difficult to meet these criteria. The two main reasons for this were attributed to the market-oriented nature of Commonwealth housing policy (although they are traditionally strong supporters of voluntarism more generally), but this was less important than the absence of a sensible financial model that would meet all parties interests – in particular, the difficulty of injecting equity into the project because of the artificially high risk premium attached to social housing projects. The absence of a larger voluntary sector reduces choice for low-income households and prevents the wider community external benefits that can flow from such organisations.

The issue of how to house middle income key workers (*e.g.*, nursing staff, teachers, bus drivers, etc.) who do not qualify for social housing in

highly priced urban areas may become a key issue in Melbourne as it is in other large urban regions such as London, (but also small and medium sized towns and even villages in attractive touristic areas where prices have been forced up by retirees and vacation homes, for example in the South of France). In some cities, for example, Helsinki or Madrid, government has promoted projects which have separated out the cost of the land from the cost of the housing by building low priced housing on land acquired through land banking or by exchanging construction permits for a percentage of land being transferred to the municipality. Very innovative partnerships are now being created between private developers, employers and local authorities to tackle this problem in London. For example, Keep London Working (KLW) is a new partnership led by the Peabody Trust with funding provided by the Trust and the London Development Agency to increase the offer of low price factory built modular homes within London for key workers. This housing will be located on land made available by local authorities, even on a temporary basis, at a below market rental price.

There are at least two main ways in which the forces of gentrification and exclusion may be reversed. One is through successful corrective policy intervention and this will be discussed in the next section. However, we should not ignore the possibility of individual and market processes leading to their cumulative effects. In particular, changing relative property and land values provide development opportunities for investors and the chance to realise capital gains for moving homeowners and residential investors. Some outer suburbs may be “at risk” because of falling values relative to more attractive areas. However, this may mean that they are at risk of major physical change as developers see opportunities and try to exploit potential filtering behaviour by households. Of course, sensitive and facilitating planning and related policies could work with the market to pursue positive change.

Housing Policy Issues and Analysis

This section on policy matters considers not just the delivery of policies by different government agencies and their forward trajectory but also their interplay with non-housing policies in Melbourne. Are policy conflicts emerging from the analysis, or are there at least unexploited synergies?

We consider two broad types of policy issue:

- first, the contribution of the housing system and its unfolding processes on the development of the metropolitan region, and,
- second, the adequacy of housing policy per se.

The first issue is concerned with the way housing in Melbourne impedes or facilitates broader metropolitan goals such as balance within the built form, the efficient operation of the labour market, transport accessibility and the way the planning system mediates over conflicting demands (we look explicitly at the proposed Metropolitan Strategy in the next section). The second set of issues relates to specific housing policy options open to change the housing system in terms of affordability, market stability, widening choice for low-income households, generating a flexible and responsive housing system, as well as tackling longer term issues. The two types of question are not, of course, wholly separate: the evidence of growing income and housing spatial polarisation impacts on both sets of issues; and the housing system may act as an impediment to otherwise desirable economic and social change.

Housing and the Wider Metropolitan Region

In the previous section, we discussed the emerging problems confronting planners in relation to the built form of newly-constructed housing in Melbourne. The planning system has been unable to prevent the widespread construction of two story pseudo-mansions, nor has it been successful, from the perspective of existing residents, in finding the correct balance between detached and multi-unit, medium density housing. On the one hand, the planners contend that they do not have the powers to intervene more effectively but at the same time, the evolution of the housing market, in particular the combination of new forms of demand and an emerging supply capacity, means that multi-unit developments are more feasible and cost-effective for developers. At the same time, the trend to smaller households and higher space demands has produced the market response found across Melbourne. In addition, there is a perception that Melbourne is, apart from the urban fringe, largely built out, so that new developable land is likely to come from land use changes, in-fill sites and other windfall opportunities. Because these are in existing areas, the likelihood of political controversy accordingly increases. Where will the projected increase in Melbourne's population live? Policy assessments have to include a full assessment of the costs and benefits of greater use of building and land release controls.

Of fundamental importance is the extent to which the housing system impedes urban or regional economic growth. The Australian Housing and Urban Research Institute (AHURI), for instance, argues that there is evidence that the house price gradient in Sydney has forced development further out into the urban fringe which is now undermining the efficiency of the local labour market because workers have to commute such large

distances if they are to work in the city and afford to purchase a home. There are clear environmental and social consequences of this. It is not the case that such problems yet exist in Melbourne, but one interpretation of the widening gaps between the core city and its suburbs is that this may be the city's future and that, furthermore, it may be difficult to reverse the problem. In the previous section the idea of geographical momentum was introduced as a reinforcing process that establishes and then strengthens these polarising effects. It is not at all clear whether market processes or corrective policies can influence the disparities across Melbourne's regional housing system. However, from the point of view of the efficient operation of the labour market, what is required is affordable housing in sufficient supplies in areas accessible to jobs. The evidence suggests that there is a shortage of such rental housing and that cheaper owner occupied housing is distressed rather than affordable.

The economic context of the Melbourne area suggested that distribution and transport industries would remain important to the region. New investment in these sectors will require land and affordable housing opportunities in locations linked to main transport nodes. It is not simply about providing high value housing for the financial and knowledge based industries located in the CBD. *A successful housing strategy has to be able to recycle a range of qualities and price ranges of housing. To this end, the evidence that the housing market and income distribution is hollowing out in the middle ranges may pose long-term problems.*

Market Failure

In the middle and outer suburbs, the appearance of declining property values in the 1990s in mature residential neighbourhoods is suggestive of localised market failure. In recent years, the UK has also suffered from similar problems, often far more severe, in many of its northern towns (Gibb and Kearns, 2001). Private housing markets suffered catastrophic value collapses turning nearly all recent purchasers into negative equity positions. Falling values were associated with speculative landlordism as frustrated owners tried to rent out properties to meet mortgage payments. There then followed a rapid race to the bottom of the rental market and anecdotes of properties bought and sold in pubs for cash. Also associated with this downward spiral was a complete withdrawal of private owner repair and maintenance of properties, exacerbating the visual reputation of deteriorating neighbourhoods. This is the extreme scenario and is unlikely to occur in the Melbourne suburbs. However, there are insights from the UK experience for policy-makers and the constituent parties who have a financial or community stake in "at-risk" neighbourhoods:

- Mortgage deregulation meant that even on single streets there were many different lenders present. This made it difficult to co-ordinate responses to negative equity.
- Proposals to redevelop areas with better quality in-demand housing and other land uses foundered on moving out households with negative equity. Levels of compensation associated with compulsory purchase would have meant major losses for most households. Even so, compensation costs (to be met by local government) would be prohibitive.
- Property valuation in dynamic and collapsing housing market is undeniably contentious and prone to litigation, leading to conservative valuation practice.
- Speculative private rented housing rapidly accelerates the decline of neighbourhoods.
- Lenders distinguish cash flow from mortgage security problems. Essentially, negative equity is a security problem should a home be repossessed. If, however, the borrower continues to make regular payments, there is no financial issue for the lender and they have little incentive to become involved.
- Public-private partnerships have sought to regenerate several of these areas and in so doing have tried to produce financial vehicles that will allow owners to move to sustainable properties nearby. This usually involves the creative use of compensation, compulsory purchase and the transference of additional debt to the new mortgage. However, the transactions of costs of dealing with the different circumstances of individual owners makes these proposals typically time-consuming and expensive. Lenders remain reluctant to become involved.

This is only a caricature of the most severe problems found in parts of North West England, where the problems are compounded by levels of social deprivation, housing management failure and other complexities which have thus far not visited Australian cities. Nevertheless, the difficulties in tackling these problems are profound and policies and strategies to prevent their emergence have to be prioritised, particularly in the context of a private market housing system experiencing shortages of affordable rental housing.

One possible reason for the problem of localised market failure is a form of spatial mis-match because new job workers would not choose to live in such areas. It has therefore been suggested that these areas would benefit from comprehensive investment strategies that seek to create jobs, infrastructure and higher quality housing in situ. *This is part of a wider debate about whether workers follow jobs or in fact if jobs follow workers.* In the UK, manufacturing investment follows residential investment; American evidence suggests that the two may occur simultaneously.

However, commentators interviewed during the study argued that the Activity Centres, proposed as a central component of the Metropolitan Strategy, often focus around shopping centres and multi-unit developments, are too numerous, narrow in focus and brought forward too quickly. Furthermore, Melbourne has evolved its schooling (a key indicator for residential attractiveness) in such a way that there is a perceptible lack of good quality schooling (particularly the private sector) outwith the inner Melbourne core.

The housing system plays an important role in influencing and shaping the potential effectiveness of the wider metropolitan economy. This is most obvious in terms of the labour market, new investment opportunities and through the encouragement of new development that is consistent with the economy's long term needs (close to existing transport links and limiting the additional infrastructure and environmental pressures on the region).

Assessment

The chief constraint in tackling the problems emerging in Melbourne stems from the centrist policy framework which operates on a top-down basis, relies heavily on market processes and offers little local discretion. There is no point in suggesting policies that are far removed from this framework or ideology; but with only a limited increase in local discretion a number of policy developments could probably move the Melbourne housing system, to a limited extent, in a preferable direction. The main justification for this slight change in emphasis is, of course, that aspatial policies like rent assistance, have marked spatial impacts, depending on local circumstances. This is as true comparing Victoria with Western Australia as it is when comparing the Melbourne CBD with the outlying suburbs. Providing local discretion can also be tailored to facilitate market flexibility, as we will see below; it need not mean local policies that try to "buck the market".

Five possible policy areas are worth further investigation:

- *Helping older outright owners with their maintenance and upkeep.* There are several ways in which support might be provided: means-tested repair and improvement grants; public (or part-public) guarantees for a voluntary insurance scheme linked to annual maintenance surveys; care and repair schemes using advocates for the elderly; models based on reverse mortgage/equity release products. All of these could be based around nationally determined principles, although the care and repair scheme might have a significant voluntary sector and otherwise local format. The experience of Canada where reverse mortgages have been introduced to increase the income of capital rich but income poor elderly owner-occupiers could be examined. (OECD-Norway Conference on Ageing, Housing and Urban Development, OECD, 2002).
- *Increasing the low cost private rental stock.* Clearly, the federal tax design that discriminates against low cost housing stock could be reversed to favour investment in low cost housing. Alternatively, policy could be aimed towards low-income housing tax credits for investors. Other policy directions could seek to stimulate institutional investment through real estate investment trusts or similar tax transparent vehicles that allow investment but separate it from management functions.
- *Promoting a public land developer to counter market volatility.* Several commentators pointed out that the URLC could play such a role in Melbourne acting both as a land developer to smooth out market activity and acting strategically on behalf of the wider Melbourne public interest through deals to do with brownfield and land conversion projects. A version of this idea was successfully promoted in Edinburgh in the 1990s (and has now been floated off as a private company).
- *Using local and national taxes as automatic stabilisers.* Both local property taxes and national transactions taxes could be examined to determine whether they could be used as automatic stabilisers to correct over heating in booms and to reduce property costs in recessions.
- *Policies to prevent at-risk suburbs falling over the edge.* Housing policies are only part of wider regeneration that encompasses

investment, job creation, recreational and other soft infrastructure expenditure. The lessons from the UK are that community-level or area-wide housing improvement may be required to increase housing quality and to improve neighbourhood environments along with measures to reduce excess supply (where feasible) through limiting new build and through selective demolition (where this is affordable to the public purse). Public-private partnerships with a long-term vision, resources and, of course, the powers to act to change neighbourhoods are all required. As a first step, monitoring of neighbourhoods using simple indicators of prices, rents, deprivation, tenure change, turnover, vacancies and the like needs to be maintained.

Housing and the Metropolitan Strategy

Led by the State Department of Infrastructure, Victoria has embarked on the preparation of a metropolitan planning strategy for the Melbourne region (Department of Infrastructure, 2000). The Strategy clearly touches on many housing issues.

Housing is recognised as important to the strategy in several respects:

- In the assessment of the importance of globalisation to the Melbourne region, the importance of a liveable city/region with the capacity to attract and retain a highly-skilled workforce is prioritised as a source of both competitive advantage and where urban planning policy can play, over time, a critical role.
- Housing development patterns have major environmental costs, particularly in terms of lower use/access to public transport in the suburbs and the infrastructure costs associated with fringe development.
- In social terms, housing is a key sector in determining life chances, quality of life and inter-generational equity (and these are all threatened by spatial polarisation of housing choices, housing costs and affordability).

Will the Metropolitan Strategy result in the improved long-term outcomes that are desired? For instance, an ageing population living in smaller households will require different house types and perhaps live in different suburbs than at present (given the scope for future development). How are the required urban services to be provided and where should they

be located in such a way that access is more vertically and horizontally equitable? Key issues include the following:

- Demographic forecasts suggest an additional housing requirement of 620 000 dwellings by 2030. Can these be met? What happens if they are not met?
- Will mechanisms exist which both tackle and resolve disputes over increased densities and urban consolidation (which is closely related to the intra-urban price of land)?
- Will policies deal effectively with specific affordability and housing crisis problems (*e.g.*, homelessness) that manifest themselves in terms of high rental costs and expensive inner city housing?
- Can the strategy encourage greater housing diversity to meet the widening set of needs and demands in suburban Melbourne?
- Will it be possible to provide more housing in established areas but also maintain liveability and protect the existing character of the neighbourhood? Can planners (with developers) identify locations outside the central city where higher density development can be encouraged?
- Urban fringe development growth has been directed to growth corridors for more than 20 years. Should this be continued in new corridors once the present land supplies are built out? Should households pay for infrastructure costs within new developments?
- Can the development of regional towns be encouraged as an alternative to the continued expansion of Melbourne? Do small towns have a future within the commuter belt to Melbourne?
- Can housing development be planned in such a way as to protect natural resources? What changes are required to current development practices to reduce greenhouse gas emissions?
- Should more housing be provided at or near major shopping and business centres in the suburbs?

- How should the use of green wedges or hard edges (*i.e.*, greenbelts) be used in the future to manage residential development at the urban fringe?

Housing in Melbourne embodies several long term trends (changing household size, tenure and location and property type patterns) that any successful planning strategy must account for and deal with in a “smart” way, that is, recognise the durability of these trends and work with the grain on preferences and choices, rather than impose unworkable solutions that are ignored, by-passed or overcome by individual actions. Some reflections are made on several of the issues identified above, given these constraints.

The projected housing requirements rely heavily on demographic forecasts. These predictions are fragile to the extent that they do not account for economic or market behaviour. For instance, if prices rise because supply does not respond to the new demand, many households will simply not form a separate household or go elsewhere. Furthermore, if average incomes continue to rise, even with increased polarisation, then there will be further increased demand for housing. In this context, the role of land release planning in influencing supply responsiveness should not be ignored. Planning dispute mechanisms, arguably, can deal better with controversies over urban consolidation than the wider planning system is able to provide levers to tackle fundamental sources of these disputes which are demand trends driving urban land price variations and spatial market polarisation.

Planning undoubtedly can do much to protect neighbourhood character and increase diversity – but it must be recognised that by frustrating some people’s choices this is likely to have spillover housing market effects which may simply serve to deepen polarisation as people move to other areas.

If feasible, new growth corridors may well make sense, but in the same way that non-residential development may well be supported or implicitly subsidised to locate there, especially in its initial stages, why should not assistance extend to residential developers and ultimately house purchasers in the form of reduced commitments to meet infrastructure costs? Alternatively, this might be linked to planning gain concessions won from developers in return for land in such corridors. Of course, if land costs are kept down, that may be a reasonable trade-off with individual contributions for infrastructure. In short, there may be several different routes by which planners and other policy deliverers can be creative.

The investment in new towns or in commuter belt areas must be at least partly contingent on public and private transport networks and the budgetary and long-term (ecological) costs of such developments. As with many of the specifics, this requires careful options appraisal. A much more difficult

question concerns whether existing small towns should be allowed to wither on the vine. This is in many ways the classic conflicting problem for policy-makers operating within mature urban systems. New housing adjacent to major shopping and business centres in the suburbs also needs to be assessed on a similar basis. Is it warranted and what might it displace (in terms of alternative land use clusters and other housing neighbourhoods)?

There is always a battle between developers/construction interests on the one hand and, on the other, the desire to increase energy efficiency and sustainable dwellings. There are trade-offs and risks attached to raising regulatory standards too high – again, this requires a careful assessment of the consequences of regulatory uplift on industry – given the over-riding need to meet housing requirement levels.

An urban growth boundary has costs as well as benefits. It could have market impacts such as upward pressure on prices, encouraging the more intensive use of new and existing land (*i.e.*, extensions and conversions as well as in-fill or gap sites). This distortion may be a price worth paying, but it should be recognised as such, particularly given the present planning problem disputes discussed above.

Labour Markets and Social Cohesion

Labour Markets

Trends in Australian Labour Market Policies

Labour market conditions strongly affect the ability of people and households to manage their lives and plan for the future. Labour market policies in Australia are largely the preserve of the Commonwealth government although States also legislate in this domain. [OECD, report “Innovation in Labour Market Policies – the Australian Way” (2001)] The impact of federal policies is therefore important in determining labour market conditions at the local level. Australia stands out as among the first OECD countries to introduce market type mechanisms into job-broking and related employment services. Since the introduction of Job Network in 1998, employment services in Australia are mainly offered by independent providers from the private and community sector. The remaining government body offers services on the same terms and conditions as the private providers, and has retained only a relatively minor share in the market. This radical transformation of employment service delivery is without parallel in OECD countries and is considered to demonstrate that the delivery of publicly-financed employment services by private and community providers is a viable option.

Another significant recent development has been the Commonwealth Government's intention of retaining only the most cost-effective active labour market programmes. This has led to the abolition of the main long-term training and subsidised employment programmes for the unemployed, although many smaller programmes for particular target groups were retained or introduced.

A third development has been an increased emphasis on the principle of "Mutual Obligation" in the benefit system which requires some people who have been unemployed for some time to take up one of a number of options (including part-time and voluntary work) or to participate in a new job-creation programme called "Work for the Dole". Against a background of rapid economic growth, unemployment fell rapidly during the early years of these new policies.

Australia's industrial relations system is exceptional in that most workers are covered by "awards" set through a quasi-judicial system of conciliation and arbitration operating through industrial tribunals at both State and Commonwealth levels. Awards, which originated as a response to industrial disputes, set wages and other conditions of work for a large proportion of workers. Over the last decade, the system has been undergoing a paradigm shift in that *awards* are rapidly losing in importance in favour of *bargained agreements* at the enterprise and workplace level. Arbitration has nevertheless remained important with a vital role in such matters as setting minimum wage levels for some workers. The search for avenues to further reform continues, but it has been difficult to find a political consensus for a particular future model. The following chapter sets the context within which the labour market in Australia is organised but draws attention to the social implications. The labour market conditions in Melbourne are to a large extent determined by this contextual situation.

The introduction of Job Network in 1998 was preceded by the establishment of a new public body, *Centrelink*. Centrelink processes claims and payments for a range of benefits such as age pensions, disability and unemployment assistance on behalf of the Department of Family and Community Services (FaCS). It refers jobseeker clients to Job Network services and other labour market programmes on behalf of the Department of Employment, Workplace Relations and Small Business (DEWRSB) and other Departments. Centrelink is thus a kind of "first-stop shop" for employment services, but not a "one stop shop" in the sense used in some other OECD Member countries because its role in job-broking is limited to providing access to vacancy listings and career information through computerised touchscreens.

Employment Trends in Australia

As of 1999 some 9.4 million individuals were in the Australian labour force, including 8.7 million in employment. The labour force participation rate of the working-age population (aged 15 to 64 years) was about 2.5 percentage points above the OECD average. This rate in Australia tended to be higher in the 1990s than in the 1980s with an increase of 3 per cent between 1980 and 1999. This change was associated with a gradual long-term decline in male participation rates and a strong long-term rise in female participation rates. The share of the Australian working age population in employment in 1999 was also higher than the OECD average, in this case by two percentage points. In Australia, the tendencies in this indicator were similar to those with respect to labour force participation. Women have substantially increased their employment rate, while the rate for men has tended to decline.

Between 1991 and 2000 the on-going economic expansion generated an overall increase of 19 per cent in the number employed in Australia. The expansion during the 1980s was stronger in this regard, generating steady employment growth that totalled some 25 per cent over a shorter period. In contrast, the pace of average annual labour productivity growth (as measured by change in real GDP per employee) has been greater in the current expansion than in the previous one.

Australia has experienced a shift in the sectoral composition of employment. As in many OECD countries, the share of employment in the service sector has grown while the shares in industry and agriculture have declined. Australia has come to have a relatively large service sector in comparison with most of the G-7 countries and the OECD average. On the other hand, the Australian employment structure is notable in that it has a relatively small share of employment in industry. Among all OECD countries in 1998, only the Netherlands had a smaller share. With respect to agriculture, the employment share in Australia was larger than all the G7 countries except for Italy and Japan, but below the OECD average.

A supplement to the Australian Labour force Survey (ALFS) in February 2000 provides recent information on job tenure and labour mobility (ABS 2000). The survey found that about 24 per cent of those in employment had short job tenure (*i.e.*, they had been in their current jobs for less than one year). Among those with short tenures, about one third had not had a previous job during the year while two thirds were job changers. Among those who had changed jobs during the year, 42 per cent changed industry and 34 per cent changed occupation. Job mobility was highest among young adults aged 20 to 24 years.

The Australian population also exhibits an above average *geographic mobility*. An OECD analysis of internal migration of the population covering 17 OECD countries found that in 1995 only four had higher shares of the population changing region of residence over a one-year period. That year the gross flow of persons changing region amounted to 1.9 per cent of the population.

Unemployment in Australia

The unemployment rate in Australia increased in the early 1980s and 1990s as a consequence of recessions and this persisted during the following periods of expansion. During the early 1990s unemployment rose to a higher peak (11%) than was experienced in the 1980s. The persistence of long-term unemployment has been even more pronounced than that of total unemployment. Long-term unemployment tended to be higher in the 1990s than in the preceding decade. There is substantial variation in unemployment according to gender and age. Male youth experienced the largest increase in the unemployment rate (4.7 percentage points) over this period. This group faced an unemployment rate 3.0 percentage points above the corresponding OECD average in 1999. For the other age and gender groups, the Australian unemployment rates were within one point of the corresponding OECD averages. All of the Australian averages were well below those for the European Union countries. Table 5.4 highlights the variation over time in unemployment rates across the various states and territories. Tasmania and South Australia have had the highest unemployment rates in recent years while the Australian Capital Territory (ACT), New South Wales and Western Australia have had the lowest. The State of Victoria had the lowest rate of unemployment in 1989 but registered high rates in 1992 and 1996, dropping back to around the national average in 1999 and 2000. While state capitals tended to have relatively low levels of unemployment, labour market problems tended to be concentrated in certain other local areas.

The *OECD Report on Innovations in Labour Market Policies in Australia* highlights certain strengths in the Australian labour market as well as persistent weaknesses. The economic expansion in the 1990s was associated with increases in real per capita GDP, substantial employment growth and declining rates of unemployment overall. At the same time, some segments of the population (*e.g.*, indigenous people, young males and some local areas away from the main urban centres) continued to experience relatively high rates of unemployment. Although the rate of long-term unemployment has decreased, it remains higher than at a similar point in the previous period of economic expansion. Job stability remains relatively low. International comparisons using standard measures revealed greater income

inequality than in many OECD countries and a poverty rate that is in the mid range for OECD countries. In the Australian context, lone parents in particular experience a relatively high incidence of poverty. These difficulties occur against a background of slower growth of the labour force and workforce ageing and suggest a need to reinforce efforts to mobilise labour supply more effectively in the future.

Table 5.4. Unemployment rates¹ by State, percentages

	1989	1992	1996	1999	2000
ACT	5.2	7.7	8.2	5.8	4.9
Northern Territory ²	6.5	7.9	6.1	4.1	5.2
New South Wales	6.3	10.3	7.9	6.5	5.7
Queensland	7.0	10.5	9.3	8.1	7.8
South Australia	7.3	11.7	9.5	8.5	7.9
Australia					
Tasmania	9.2	11.6	10.4	9.7	9.2
Victoria	4.9	11.6	8.9	7.4	6.5
Western Australia	5.9	11.0	7.7	6.8	6.3
Australia	6.2	10.8	8.5	7.2	6.6

1. 12 month average of unemployment divided by 12 month average of labour force multiplied by 100.

2. Northern Territory data refer to mainly urban areas and are excluded from comparisons in the text.

Source: ABS Labour Force, Australia, Catalogue No. 6202 0, various issues in *OECD Report on Innovations in Labour Policies in Australia*.

The Changing Context

Employment changes in Metropolitan Melbourne have to be viewed in the context of the national economic and labour market context as well as in relation to fundamental changes which have taken place in the post war way of life in Australia more generally. The report "Reshaping Australian Social Policy, Changes in Work, Welfare and Families", Committee for Economic Development of Australia (CIDA), November 2000, analyses how variations in economic growth, changing cultural and social aspirations, technological change, new management strategies, substantial shifts in macro-economic policy and greater exposure to global markets have all contributed to a fundamental modification of the living and working conditions of people in Australia over the past two decades.

Many of the changes are seen to be the working out of long-term trends, such as:

- the increase in female participation in paid work,

- growth in part time and casual work (14% of male employment, the highest level in the OECD);
- low job stability;
- the growth of service sector employment; and
- a growing occupational share by professional and managerial workers.

Other changes which have intervened include:

- high rates of unemployment,
- the disappearance of work relationships based around full time contracts of indefinite duration as the male employment norm,
- the erosion of a centralised awards system (governing conditions of work such as pay, hours, overtime rates, sick leave, holiday leave, rosters, work demarcations, redundancy, dismissal and severance procedures), the decline in public sector employment), and
- the diversification of employment arrangements.

The radical shifts in labour market organisation which occurred in Australia in the 1980s and 1990s described above were linked with major changes in both labour supply and labour demand. In the report *Reshaping Australian Social Policy*, Buchanan and Watson conclude that most indicators point to a qualitative change in individual employment relationships across broad sectors of the labour market. Similarly, they note that the post war period was marked by the vertical integration of firms and the spread of the wage earner model, whereas recent decades have seen a vertical disintegration of firms, as businesses outsource many of their functions and construct labour supply arrangements unfettered by the legal and financial obligations associated with the previous employment contract.

The report by Buchanan and Watson notes that certain institutional safeguards in Australia have prevented the spread of low paid jobs to the same extent as in countries with a more deregulated labour market, such as Britain and the United States. However, the wage position of those reliant solely on awards or in poorly unionised workplaces – typically areas of high female employment – is seen to have declined relative to those workers able to bargain strongly at the enterprise level and to managerial and executive employees. The report partly attributes increasing wage dispersion (which

dates back to the mid seventies) to changes in the composition of employment, with employment growth strongest in both high and low skilled occupations and weak in the middle range of skills. A large part of the polarisation is seen to be due to inequality within occupations and skill groups which may be linked to shifts in bargaining power at the enterprise level.

In the face of such complex changes, the report argues that the measure of unemployment at any given point in time is becoming less helpful as an indicator of the health of the labour market or workers' well being. Key issues highlighted are: hours of work, incidence of low pay, work intensification, access to training, level of worker satisfaction and the "churning" of workers between low paid intermittent employment and unemployment. This and other Australian studies indicate that the risks associated with labour market restructuring are falling unevenly, suggesting a labour market in which earnings, hours worked and job opportunities are increasingly polarised around age, skill, gender, family type and geographic location.

Income Inequality and Poverty

While increases in per capita income are important to material well being, the distribution of income is important for equity concerns. During the first half of the 1990s there was an increase in the rate of government income support measured as a share of GDP. Government income support rose to 7.4 per cent of GDP in 1994 and has remained at approximately 7 per cent since. While this may have been one factor contributing to improvements in certain income distribution and poverty indicators for Australia between the mid-1980s and mid 1990s, by these same indicators it also appeared that Australia continued to experience greater income inequality than many OECD countries and a poverty rate in the mid-range for OECD countries. A recent ABS study examined the incidence of poverty in Australia by age and type of income unit. In the case where the poverty line for income units was defined as income below 50 per cent of the median equivalent income, the study found that some 10.2 per cent of all income units were in poverty in the year ending 30 June 1996. The poverty rates for couples with or without children were below the average as they were for most one person income units for persons aged 25 or older. On the other hand the incidence of poverty was much higher for one parent income units, amounting to 17.2 per cent.

The shift in the economy has also had an impact on the relative income earning capabilities of people in Melbourne relative to those in other States and regional areas of Victoria. In 1981, 53 per cent of Melbourne's

households were earning above the State average household income. By 1996, this rate was slightly higher at 54 per cent. In 1996 31 per cent of Melbourne households were earning more than \$1 000 per week. This compares with 44 per cent in Canberra, 36 per cent in Sydney, 29 per cent in Perth, 29 per cent in Brisbane, 23 per cent in Adelaide and 18 per cent in regional Victoria (Figure 40, page 30 *Suburbs in Time*). Regional Victoria has a higher proportion of low income and fewer higher income earners than Melbourne, reflecting lower pay and lower paid occupations. Regional Victoria also has higher proportions of all categories of social security recipients than Melbourne: sole parents, unemployed, low wage and disability. Overall regional Victoria has large numbers of disadvantaged families. This results in a concentration of people with very low incomes in some areas with high rates of unemployment and little growth in job opportunities. Not only is employment limited in regional Victoria, but also access to services. A study by Birrell notes that in terms of health services the population per (full time equivalent) doctor in Melbourne is 980, in Regional Victoria 1 432.

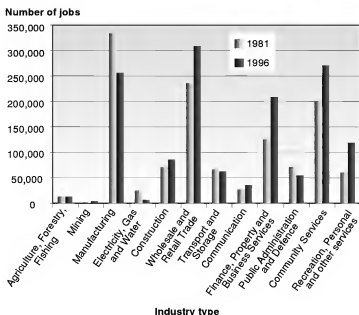
Employment in Melbourne

Changes in the economy over the past two decades have been reflected in Melbourne by enormous loss of jobs in sectors such as manufacturing and utilities and a dramatic increase in the numbers of people working in the service sectors and there has been a strong move to a more educated and professional labour force. In 1981 about 27 per cent of the working population was employed in manufacturing. By 1996, this figure had fallen to just over 17 per cent, with a net loss of 70 000 jobs. Historically, Melbourne had a large and well developed manufacturing base concentrated in sectors such as the automotive industry, textiles, clothing and footwear manufacturing. Due to international competition, industry restructuring, capital investment in machinery and changes in trade policies, these sectors have experienced substantial employment decline in Melbourne in recent years, although the overall value of Melbourne's production has increased. Similarly, employment losses in the utilities industries were 18 000, or about 72 per cent of the 1981 workforce in this sector.

By contrast, persons employed in services in Melbourne increased sharply between 1981 and 1996. The wholesale and retail trade sector and the community services sector (which includes education and health) increased by more than 30 per cent. Finance property and business services have increased by 66 per cent, while the recreation, personal and other services sector doubled during the 1981-1996 period. [pp. 29 of *Suburbs in Time*], Source: ABS, 1996 Census of Population and Housing, Household Sample File, cat. no. 2037.0. Much of the increase in finance, property and

business services employment can be attributed to greater contracting out of technical and professional services by government and business. Recreation, personal and other services have increased, mainly as a result of substantial growth in consumer spending and tourism. Continuing a process begun in the mid seventies, the changes that occurred in recent years mean that almost three out of every four employed people in Melbourne work in the tertiary sector or service industries.

Figure 5.1. Number of persons employed by industry sector, Metropolitan Melbourne 1981-1996



Source: *Victoria in Future, Melbourne in Future*, Page 3, DOI.

Change in industry is reflected in the professional categories of the population. In 1996, almost 28 per cent were employed as managers, administrators or professionals, compared to just over 23 per cent in 1981. By contrast, the number of people employed as labourers, tradespersons and in the production and transport industries has fallen.

Reflecting national trends is the shift toward part time, casual or contract based employment in Melbourne over the past 15 years. Full time male jobs have shown little change in Australia since 1973, and the vast majority of employment growth has come from full-time female jobs and part-time jobs (Figure 5.2).

Figure 5.2. Employment levels, Metropolitan Melbourne, 1981-1996



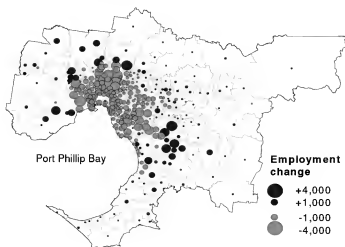
Source: *Victoria in Future, Melbourne in Future*, Page 11, DOI.

Unemployment in Melbourne

The impact of industry restructuring and larger numbers of people entering the workforce during the 1990s resulted in an increase in unemployment. The total number of persons that were unemployed in Melbourne rose from about 70 000 to 186 000 between 1981 and 1991 and then fell to 143 000 in 1996. The unemployment rate followed this overall pattern, increasing from 5.4 per cent in 1981 to 12.1 per cent in 1991, falling to 9.1 per cent in 1996 and dropping to 7.3 per cent in February 2000 (ABS). In March 2002, unemployment within Melbourne's region declined from 9.3 per cent to 5.7 per cent.

Young people in Metropolitan Melbourne experience higher levels of unemployment than other age groups. At the 1996 Census there were 42 325 unemployed people aged 15-24 years in Metropolitan Melbourne, an unemployment rate of 15.3 per cent for this age group. Young people accounted for 19.1 per cent of the total labour force but 31.8 per cent of all unemployed people in Melbourne. Within each region, unemployment among young people, ranges between 8 per cent and 34 per cent. The occupational distribution of unemployed people aged 15-24 years was very similar to that of all unemployed people.

Figure 5.3. Change in manufacturing employment by place of residence



Source: *Victoria in Future, Melbourne in Future*, Page 4, DOI.

Strong locational differences show up in statistics for employment regions in Melbourne. Between 1981 and 1996, the inner and middle suburbs (particularly in the north and west) experienced the greatest decline in manufacturing employment. The outer and fringe areas had significant increases, reflecting the new spatial distribution of manufacturing activity in the metropolitan area (Figure 5.3.). At the same time employment levels in manufacturing have fallen in both Melbourne and regional Victoria, and employment in agriculture has also fallen.

The highest rate of unemployment in February 2000 was in North Western Melbourne (12.9%) – an area which includes the City of Hume, followed by the rural area All Gippsland (11.2%). In contrast the lowest rates were found in Inner and Eastern Melbourne (each 5.5%) [ABS 6202 2 February and November 2000]. The Mornington Peninsula Region (which includes the City of Frankston and Shire of Mornington) had an unemployment rate of 6.3 per cent, below the State average. However within these areas, there are strong internal locational differences in unemployment, thought to indicate a mismatch between the skills of the resident population and the types of jobs available, rather than a lack of employment opportunities.

Unemployment is also higher for people born overseas in countries other than main English speaking countries (9.2%) and for recent arrivals (arrived since 1996, 16%). These figures are not readily available by local area, however. Census statistics give a good indication of the location of overseas born (for example there are a high proportion in the City of Hume). The lowest unemployment rates were recorded in suburbs such as Warrandyte and Diamond Creek (Melbourne – A Social Atlas, ABS, 1998).

The impact of globalisation and economic restructuring has therefore been uneven across Melbourne. Many areas have experienced substantial increases in the number of disadvantaged residents with higher rates of unemployment, lower incomes and a greater dependency on government assistance. Other areas, however, have seen fewer negative impacts of industrial change and an easier transition to new professions and new industries. This has contributed to maintaining and widening the gap between the professional high income earning, low unemployment areas and the low-skilled, low-income, high unemployment areas.

The suburbs with the largest increases in unemployment are those with a population traditionally employed in industrial jobs. There is a strong correlation between high unemployment and job loss in manufacturing. This has proved to be a clear pattern in the western and northern suburbs of Melbourne as well as in the belt of suburbs between Moorabbin and Dandenong in the southeast (Figure 41 page 31 Suburbs in Time). However, the degree of restructuring in manufacturing in Melbourne has been such that there have been losses in employment across almost all of Melbourne. Only the rapidly growing areas on the fringe of Melbourne, such as Werribee, Sydenham, Mill Park and Rowville, have had an increase in the number of residents employed in manufacturing (Figure 42, page 31 Suburbs in Time).

Those suburbs that have maintained high incomes and low unemployment tend to be those with more people employed in sectors such as finance, property and community services. The relative socio-economic advantage of suburbs such as Eaglemont, Southbank, Canterbury and Balwyn North reflects in part the numbers of people employed in both of these sectors. Conversely, most of the areas that have a small proportion of their workforce in these services tend to have greater socio-economic disadvantage. With a continued strong proportion of people employed in the primary industries, many of the agricultural areas on the edge of Melbourne are exceptions to this rule.

Education

Educational attainment is an important contributing factor to the human capital of a nation. Australia's labour force has at least two notable characteristics in this regard. First, among the adult population, Australia has an above average share of individuals that have attained at least tertiary education. Second, a large share of the adult population has not completed upper secondary education.

The existence of a sizeable population with low educational attainment in Australia is partly due to the traditional engagement of large shares of the population aged 15 to 19 years in full time employment and relatively low educational enrolment rates for them. However, participation of teenagers in education and the labour market has changed substantially over the past 15 years (DEWRSB 2000). During this period the share of this age group in full time education increased by nearly 20 percentage points while the share in employment decreased by about 16 percentage points. Roughly one in four of this age group was engaged in both part time employment and full time education (ABS 1996). Also members of this age group engaged in full time education accounted for nearly 15 per cent of Australia's casual employment (ABS 2000).

With respect to literacy, the International Adult Literacy Survey (IALS) provides a useful indicator: the shares of adults scoring at IALS literacy level 3 or higher where level 3 was the minimum level considered by experts to be necessary for functioning satisfactorily in today's economy and society. Relative to twelve OECD countries and two age groups, Australia scores close to the OECD average for each age group. As for most of the other countries, the share of the younger age group at level 3 or higher was substantially greater than for the older age group.

Economic changes have been accompanied by improved educational levels in Melbourne. In 1981 only about 31 per cent of the population aged 15 or above had finished secondary school. By 1996, the number had increased to 50 per cent. The numbers achieving tertiary education levels has also increased, from 6 per cent with a bachelor or higher degree to more than 13 per cent. This trend is expected to continue in view of the higher proportion of 25-44 year olds with bachelor degrees or higher as compared with those aged over 50. More people over 15 are prolonging their period in formal education. The numbers of people across Melbourne attending university and TAFE (Tertiary And Further Education Institutes) rose from about 137 000 in 1986 to 237 000 in 1996. An increase in female educational standards has generally promoted much higher rates of female participation in the workforce.

The transformation in the educational sector in combination with changing economic circumstances and the changing age structure of the population has resulted in an increase in the labour force participation rate from 62.5 per cent in 1981 to almost 65 per cent in 1991, before falling to just under 63 per cent by 1996.

Education and Occupational Patterns

While all suburbs of Melbourne have experienced an increase in the number of persons with tertiary education, some have experienced only a very small increase. Less than 3 per cent of the adult population of Coolaroo, Frankston North and Woori Yallock had completed a bachelor degree or higher at university in 1996, compared to about 30 per cent in Eaglemont, Middle Park and Armadale. Although many inner suburbs experienced large increases in tertiary education levels between 1981 and 1996 few of the industrial suburbs saw strong positive change.

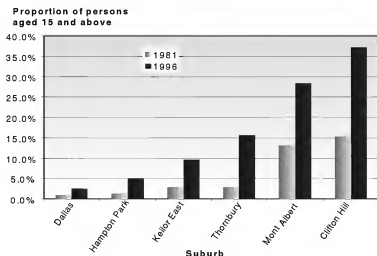
The areas that have experienced little change in unemployment rates have also tended to be those with higher educational attainment. There is a strong connection between the levels of education and the sorts of opportunities and jobs that are prevalent in "industrial" suburbs. This has certainly tended to reinforce the differences between suburbs in relation to unemployment and a greater difference in those areas of advantage over disadvantage (Figure 5.5).

Managers, administrators and professionals tend to be concentrated in the traditionally wealthy inner, eastern and bayside suburbs such as Camberwell, Brighton, and South Yarra. There are also large numbers along the Yarra River in the northeast as well as on the fringe of Melbourne where farmers are classified as managers. There is a much lower proportion of managers and professionals in the northern, western and outer south-eastern suburbs.

The unskilled workers, notably labourers and related workers tend to live in the industrial heartland of the west and north, with some in the southeast. There is a similar pattern in the location of persons employed in production and transport.

Tradespersons tend to be strongly represented in the fringe suburbs. The residential location of builders, painters and plumbers on the fringe was traditionally advantageous as much of the new building work was being carried out on the fringe. With changes to the pattern of building activity in Melbourne during the 1990s the degree to which it is an advantage may have reduced over time.

Figure 5.4. Proportion of 15+ population with bachelor or higher degree, selected areas, 1981, 1996



Source: *Victoria in Future, Melbourne in Future*, Page 5, DOL.

The distribution of the labour force in clerical, sales and service occupations is less polarised across Melbourne. Most areas have between 25 per cent and 35 per cent employed in these occupations. People employed as elementary sales and service workers (sales assistants, parking inspectors, mail clerks, security officers, housekeepers, etc.) are located across most of Melbourne. However there are some noticeably higher concentrations along the Mornington Peninsula, servicing the tourist trade and in some western and northwestern suburbs such as Kealba, Albanvale and Avondale Heights. The largest concentration of those employed as advanced clerical and service workers (secretaries, personal assistants, insurance agents, flight attendants, etc.) are in some of the most affluent outer suburbs, especially those in the north east including Wonga Park, Research, Eltham North and Park Orchards, as well as some suburbs in the north west.

Occupational patterns over the previous decade have in many ways sustained the occupational divide between the “industrial” and “non-industrial” suburbs. Although many of the eastern suburbs of Melbourne have not experienced significant increases in managers, administrators and

professionals, most areas have about half of their working population employed in these categories. Areas of lower socio-economic status with low numbers of managers, administrators and professionals such as Springvale South, Albion, Hastings and Heidelberg West have experienced little change over the 1986-1996 period.

The major change has been in the inner suburbs of Melbourne where huge increases have occurred in the proportion of persons with higher occupational status. This has been especially noticeable in gentrifying suburbs such as Richmond, Footscray, Brunswick and Northcote.

The result of large increases in unemployment and underemployment and in the types of opportunities available in many suburbs of Melbourne has created a greater imbalance between those with high and those with low incomes. Many eastern and north eastern suburbs have half of all their households earning in the top quartile of State incomes and few in the bottom quartile.

By contrast, a number of areas on the Mornington Peninsula with elderly populations and a number of industrial suburbs such as Frankston North, Doveton and Braybrook have only between 5 per cent and 15 per cent of all households in the top income quartile. There are also some areas in the Upper Yarra Valley, such as Warburton and Millgrove which have few high-income households. Most of these areas have many people in the bottom household income quartile. Nevertheless, there are likely to be significant differences in the number and value of assets between these areas. Those elderly people living in the Mornington Peninsula are likely to have accumulated assets over their lifetime.

A number of suburbs demonstrate "internal" polarisation between those with high and low incomes. This tends to be in the inner city, where the numbers of households in the middle income groups are lower, in suburbs such as Albert Park, Fitzroy North, Port Melbourne, South Melbourne, Williamstown and Prahran.

The DOI study "Suburbs in Time: Analysis – Demographic, social and economic change in Melbourne's suburbs, 1981-1996" documents and analyses the phenomenon:

"The changing patterns of economic activity has created new ways to differentiate areas of the city. There are areas of Melbourne that are associated with the global information economy and others that are more marginal or peripheral (Newton, 1995). Perhaps one of the greatest issues about changing economic activity and the city concerns the future of the inner suburbs as an area of diverse population."

The report concludes:

“Clearly, there are issues that must be addressed to increase the level of opportunity in disadvantaged suburbs. While the Melbourne economy appears to be growing strongly at the broad level, it is difficult to ascertain if areas with high unemployment and low income have benefited from this economic recovery over the past five years. There may be skill mismatches between the job opportunities that are being created in the economy and the people seeking work who had become surplus to requirements in industry over the past two decades.”

Social Cohesion

Socio-economic polarisation in urban areas is a growing problem for most urban areas in mature OECD countries. It is considered to be a major challenge for improving both the competitiveness and liveability of large urban regions everywhere. Recent OECD research on improving metropolitan governance (*Cities for Citizens: Improving Metropolitan Governance*, OECD, 2001) argues that the process of economic globalisation tends to increase socio-economic spatial disparities in metropolitan areas unless policies and programmes are applied to attenuate or reverse this trend.

In 1999 the Australian Housing and Urban Research Institute (AHURI) published a ground breaking report “Community Opportunity and Vulnerability in Australia’s Cities and Towns” using census data from the 1996 Census at the level of Statistical Local Authorities (SLA’s), combined to form indicators of “opportunity” or “vulnerability”. This study, which sheds considerable light on the strengths and weaknesses of Melbourne (Figures 5.5 and 5.6), compares the performance of Melbourne to that of other Australian metropolitan areas, and discusses the implications of the results for public policy which are of relevance for the OECD Review. The report confirms the very substantial dimension of socio-economic polarisation in Metropolitan Melbourne where the problem is described as being more severe and widespread than in other Australian cities, although they also are affected by this phenomenon.

The AHURI report notes that in Australia, as well as in many other advanced nations, there is considerable debate about the social, economic and spatial impacts of the fundamental processes of change that have occurred in the late 20th century, in particular, the implications of globalisation, economic restructuring, demographic and social changes and associated political transformations, social exclusion and disadvantage. This concern is felt at the level of individuals, households and communities

within the large metropolitan cities and the regional cities and towns. Who are the winners and who are the losers in the rapid and complex transformation of society from an isolated protected industrial era to a more open global era of the service and information economy? In turn, questions emerge as to how governments can deal with the process and its outcomes.

The AHURI analysis illustrates a number of interesting patterns regarding the socio-spatial distribution at a national metropolitan level:

- the global economy/high income opportunity cluster vis-à-vis the location of other clusters in mainly inner and middle suburban locations;
- the transitional/gentrifying opportunity clusters in mainly central city and inner suburban locations;
- the various clusters of communities of vulnerability in mainly outer suburban and peri-urban locations.

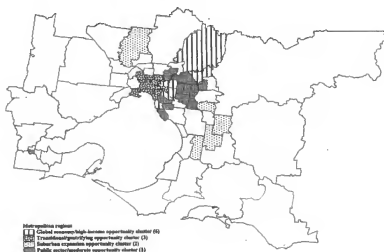
Based on indicators which map the concentration of specific clusters of opportunity or vulnerability in the main Australian cities, the AHURI study notes that (Figure 5.7):

- Adelaide emerges as the most seriously vulnerable among the large metropolitan city regions in Australia, reflecting its considerable and prolonged difficulties of adjustment to the transformation from the Fordist to the post Fordist era.
- For different reasons, Hobart appears to be vulnerable based on the measures used in the study.
- Perth has communities with high opportunity, but also significant concentrations of very vulnerable communities on its fringe.
- Brisbane is something of an enigma displaying a rather mixed performance with little representation among its Statistical Local Authorities (SLAs) in the communities of great opportunity. It also exhibits a degree of vulnerability across much of its growth corridors to the Gold coast and the Sunshine coast.
- Canberra remains a special case being still predominantly a government city in keeping with its national capital functions, with

community opportunity being represented universally across its urban space.

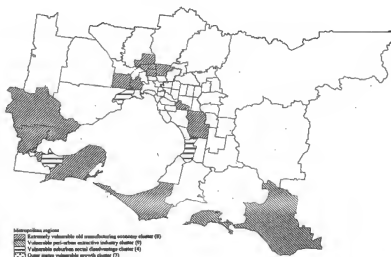
- Sydney appears increasingly as Australia's global city. Sydney dominates as the place of concentration of those communities in that have greatest opportunity through links to the global economy functions with high levels of affluence. But perhaps most significant is that Sydney's SLAs are performing at higher levels on the community opportunity vulnerability continuum than is the case in the other capital cities. There is evidence that Sydney's global and national functions are pulling up the performance of communities throughout that metropolitan city region. The report poses the question as to whether this is this evidence of a trickle down effect.

Figure 5.5. Spatial distribution of clusters of community opportunity in the Melbourne Metropolitan city region



Source: Australian Housing and Urban Research Institute (2002).

Figure 5.6. Spatial distribution of clusters of community vulnerability in the Melbourne Metropolitan region



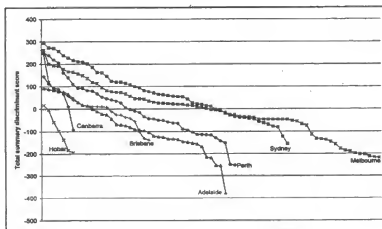
Source: Australian Housing and Urban Research Institute (2002).

The relative position of localities on a continuum of community opportunity and vulnerability and the concentration of specific clusters in particular metropolitan city regions (Figure 5.7.) points to some interesting issues. It appears that while all the metropolitan city regions have some localities that are doing better than others, the level of polarisation occurring in Melbourne is worse – or certainly more extreme – than in other cities:

“Melbourne stood out as the only urban region with the full range of the clusters of opportunity (global economy/high income cluster) and vulnerability (extremely vulnerable old manufacturing economy cluster)”.

Consequently in terms of the national social and economic landscape, Melbourne was seen to reflect many of the spatial characteristics of the classical polarising city. The long list of Statistical Local Authorities (SLAs) in Melbourne are mainly post World War II era outer suburban industrial communities – Moreland – Coburg, Brimbank – Sunshine, Greater Dandenong, Corio-Inner, Maribyrnong, Darebin-Preston, Hume-Broadmeadows and Geelong West.

Figure 5.7. Distribution of statistical local authorities in the metropolitan city regions on the community opportunity/Vulnerability continuum



Source: Australian Housing and Urban Research Institute, (2002).

One of the most significant findings of the study is the clear differentiation occurring across the urban space of metropolitan cities between the inner and middle suburbs and the other suburban and peri urban areas. This is marked across all the large metropolitan cities of Australia.

Location Needs of Firms

In seeking solutions to socio-economic polarisation, it is essential to examine the locational aspects of employment and the linkages between housing and labour markets.

The background contribution of the former Department of State and Regional Development (now DIIRD) to the Metropolitan Strategy highlighted the locational needs of firms in Melbourne in the years ahead, noting that the land needs of firms are becoming more complex as the nature of business is changing. For example, it is increasingly difficult to classify businesses as dirty (industrial) or clean (commercial) or even as “manufacturing” or “services”. For many industrial firms access to skilled “white collar” workers is now an important part of their location calculus. What were once quite separate activities are now frequently converging within the one business and site and, with clustering, within the one estate or

zone. Demand is therefore emerging for more flexible zones that accept a mix of uses and a mix of activities within each business. There also is an emerging demand for more attractive, better-served industrial estates that reflect the higher “services” component within industry.

Although Melbourne has over 5 000 hectares of zoned industrial land it is sometimes difficult for firms to find sites with the combination of increasingly sophisticated attributes they require, such as large sites combined with accessibility to skilled workers, customers and suppliers. Being able to find large sites appears to be an emerging issue. There is a need to develop better systems to understand the complexity of the Melbourne industrial land market. While there is good data on supply, better information is required on the dynamics of demand, ownership, existing and planned uses (by product/service), consumption rates and customer/supplier relationships between parcels. The availability of this sort of information would permit closer collaboration between DOI, DIIRD, DNRE and councils to reserve land for future industrial use.

Land in established suburbs with good accessibility to knowledge workers, the CBD and institutions like universities and R&D institutes is likely to be increasingly attractive in the future to clean, quiet hybrid industrial/services firms that are knowledge and technology intensive. Old vacant sites such as disused factories and schools that would most probably otherwise be used for housing could be attractive to these firms. Melbourne has a relatively abundant supply of “brownfields” sites, a significant competitive advantage for Melbourne. However there are alternative uses for this land and the market will not always deliver the most socially optimal outcome. DIIRD argues that it is vital that the more strategic land parcels be reserved for use by business.

Precincts and Clusters

Melbourne has a number of “natural” precincts where firms that have similar, related or complementary businesses have tended to locate, such as around major infrastructure nodes and around significant customers of goods and services. Examples of such precincts include the Port of Melbourne, Fisherman’s Bend (automotive and aviation) and Carlton (medical technology and research). Examples of other precincts in the city-region include Torquay (surfwear), Yarra Valley (wine and gourmet food) and Geelong (wool and textiles). The advantages these firms have sought from co-location need to be safeguarded against encroachment by incompatible (industrial, commercial and residential) uses, and in some cases might require small-scale “renewal” to increase the range of land sizes and their visual appearance. Infrastructure needs to be provided and

planning needs to be undertaken not just to support these precincts but to increase significantly their capability and competitive advantage as well. The potential for collaboration between firms in these precincts needs to be fostered and they need to be marketed to investors in a co-ordinated way with a clear image.

The most productive precincts are those that have active channels for communication, transactions and dialogue between resident businesses (see Chapter 4). Celebrated examples of clusters that exhibit high degrees of collaboration between firms include Silicon Valley in the USA and the Emilia Romagna region in Italy. It is not clear if any of Melbourne's precincts currently exhibit these attributes on a significant scale. It is also not clear if greater collaboration leads to economic success or if it is the consequence of success. The relatively small number of successful international clusters suggests that unique historical circumstances might be more important in explaining their success. The efficiency and dynamism of a region or city as a whole is more important in explaining success than the number of precincts within a city. Thus it is important that efficient communication and transport systems are established to maximise the potential for inter-firm collaboration across the city-region.

The provision of industrial and commercial land that is attractive to a broad range of businesses, including knowledge based firms, is considered an essential starting point for attracting more firms. Employment nodes for new industries in outer suburbs need to be identified, developed and marketed based on the needs of those firms and the competitive strengths of the areas. Infrastructure, particularly transport improvements, that is closely matched to land can have a significant effect in improving an areas economic fortunes.

Linkages Between Housing Markets and Labour Markets

The principle of sustainability which underpins the Metropolitan Strategy requires that new residential areas provide space for office, retail and light industrial uses so that accessibility to employment is maximised. Providing a mix of activities can maximise the use of non motorised modes and shorten average trip distances by car. Business uses need to be supported by good transport systems. Just over half of Melbourne's jobs are located in the older established suburbs roughly defined by the tram system. The rest are spread over the much larger geographical area of the suburbs developed since the 1960s. The balance has shifted away from the inner suburbs to the outer suburbs and this trend is expected to continue to 2021, although at a much slower rate. The ratio of jobs to population is projected

to improve overall for Melbourne but the gains will mostly be in the outer established suburbs, major areas of fringe growth from about the 1960s.

The areas with the lowest projected ratio of jobs to population are in the outer LGAs that are experiencing rapid population growth. They are generally not expected to experience any improvement in the ratio over 2001 to 2021, and some, such as Melton, Casey and Cardinia, are expected to experience a deterioration. Melton is particularly worrying as it is projected to have by far the poorest jobs to population balance (0.11 in 2021 compared to a city-wide average of 0.48) in the metropolitan area

Workers can and do travel considerable distances to jobs – the average trip to work by car in Melbourne is 7 km and by public transport 11 km. The DIIRD report examines the number of jobs that can be accessed within 30 minutes travelling time and concludes that residents of the newer outer suburbs are the most disadvantaged in terms of access to jobs. Many of these suburbs also have high levels of social disadvantage. An important priority of the Metropolitan Strategy is therefore to increase access to employment for residents of these areas. In this respect DSRD stresses that jobs cannot generally be transferred to where they are needed – these areas need to be made more attractive as places to do business.

Job location has long been considered to have a general influence upon housing location. A recent (2002) report by the Australian Housing and Urban Research Institute (AHURI) – “The Links between Labour Markets and Housing Markets in Melbourne” – argues that empirical research in Australia, US cities and in the UK carried out over a considerable period and in a large number of situations confirms a close pairing of suburban job growth in manufacturing and retailing and suburban housing. However, the research does not establish causality and, as mentioned previously (housing section), there has long been debate on whether jobs follow people or people follow jobs.

The AHURI report argues that changes in job location, allied to changes in the organisation of work and the mobility of workers, may be reshaping the links between jobs and houses in Melbourne. It notes, however, that job location is just one of the factors determining housing site selection by owners or renters. The price, the status of an area and dwelling quality are also relevant. With higher levels of car ownership, workers can search over a larger area and so seek out particular attributes in housing with less consideration given to the location of their work.

Table 5.5. Employment shares by area, 1981-2021

		1981 Jobs	2001 Jobs	2021 Jobs	Ratio 1996 jobs to 1996 pop.	Ratio 2021 jobs to 2021 pop.
INNER-CITY						
CBD	Melbourne	22.82%	19.57%	17.62%	6.73	5.19
		22.82%	19.57%	17.62%	6.73	5.19
INNER-OLD						
Inner	Port Phillip Yarra	4.52%	4.25%	3.93%	0.79	0.79
		5.27%	3.83%	3.15%	0.85	0.81
		9.79%	8.08%	7.08%	0.82	0.80
INNER-TRAMS						
South	Bayside Glen Eira	1.74%	1.63%	1.56%	0.26	0.29
		2.29%	2.24%	2.18%	0.25	0.31
East	Stonnington Booroondara	3.39%	3.04%	2.86%	0.49	0.55
		3.74%	4.04%	4.06%	0.37	0.45
North	Moreland Darebin	3.79%	2.76%	2.39%	0.26	0.30
		4.20%	3.25%	2.96%	0.37	0.40
West	Moonee Valley Hobsons Bay Maribyrnong	2.26%	2.16%	2.13%	0.27	0.35
		2.87%	2.01%	2.04%	0.36	0.45
		3.42%	2.37%	2.16%	0.54	0.54
		27.70%	23.50%	22.32%	0.34	0.40
INNER-POST 60s						
South	Kingston	4.95%	4.83%	4.84%	0.53	0.65
East	Monash	5.90%	5.76%	5.86%	0.51	0.61
North	Whitehorse	3.48%	3.87%	4.12%	0.37	0.46
West	Banyule	2.25%	2.36%	2.29%	0.28	0.36
		16.58%	16.83%	17.11%	0.43	0.53
OUTER-STABLE						
South	Gr Dandenong	3.99%	4.74%	4.98%	0.51	0.69
East	Manningham	1.17%	1.48%	1.65%	0.19	0.27
	Knox	2.24%	3.80%	4.40%	0.40	0.57
	Maroondah	1.91%	2.51%	2.77%	0.37	0.52
	Yarra Ranges	1.60%	2.16%	2.32%	0.21	0.32
North	Nilumbik	0.50%	0.81%	0.87%	0.18	0.26
West	Brimbank	2.02%	2.28%	2.73%	0.22	0.31
		13.45%	17.78%	19.72%	0.30	0.43

Table 5.5. Employment shares by area, 1981-2021 (cont.)

OUTER-GROWING						
South	Cardinia	0.16%	0.58%	0.72%	0.24	0.19
	Casey	1.02%	1.88%	2.30%	0.18	0.17
	Frankston	1.56%	1.99%	2.18%	0.25	0.32
	Mornington	1.77%	2.11%	2.31%	0.26	0.28
East	—					
North	Hume	2.83%	3.74%	4.00%	0.44	0.43
	Whittlesea	1.28%	1.83%	2.03%	0.23	0.23
West	Melton	0.24%	0.49%	0.61%	0.15	0.11
	Wyndham	0.80%	1.61%	2.00%	0.28	0.28
		9.66%	14.23%	16.15%	0.26	0.26
Melbourne		100%	100%	100%	0.43	0.48

Source: DSRD Report.

The report quotes Levinson: “It is the suburbanisation of jobs, creating a polycentric or dispersed urban form (which serves to balance jobs and housing) rather than the further suburbanisation of houses (which creates more imbalance) which enables commuting times to fall or remain steady”. Work on job-house links in the Netherlands recently explored this new perspective a little further by using the concept of “commuting tolerance” (Hooimeijer *et al.* 2000). This research found that optimal sites for housing, given a dispersal of employment among the main cities of the Randstadt, were the suburban areas of these large cities and locations between them, not their centres. The analysis of the AHURI report is that *housing market-labour market links have developed a new level of complexity in the metropolitan areas of the 1990s*. Research is now attempting to unravel that complexity. It is argued that what we may be looking at is not simply *decentralisation or suburbanisation* of jobs and residences but a more complex set of interdependencies that depend upon job type, location and rate of pay. *If so, this would mean that employment location may be reshaping the pattern of metropolitan development in a number of new and different ways.*

This debate has obvious implications for the policy choices embedded in the Melbourne Metropolitan Strategy. The strength and direction of the change in labour market-housing market linkages varies across the metropolitan area primarily because the number and mix of jobs varies. As a result, two very general processes seem to be shaping and reshaping the structure of the metropolitan areas:

- There are regions that have high levels of self containment (usually specialised in a particular type of work which induces residential relocation of workers in that activity, *e.g.*, employees of the new

economy in the core and in the old economy in some middle suburbs).

- At the same time there are regions that have lower levels of self-containment, with fewer jobs and a diversity of jobs. Residential relocation occurs here also, but it is not as obviously shaped by the geography of employment. In these areas population growth is running ahead of job growth. They depend on a range of population serving jobs which over time increase the level of self containment.

Supported by analysis of the impacts of globalisation in other metropolitan areas (Sassen, 1998), the AHURI report argues that a consequence of the 1990s policy of promoting Melbourne as an international city has been to reinforce the spatial separation of specific labour market groups within the Melbourne metropolitan area with the higher density core becoming socially and economically distinctive and separate from the suburbs.

It is clear that housing-job patterns are more complex than before. Because of this trend, the view that the housing sector should provide housing through mostly suburban development and some infill in older areas, and that business should search for a suitable location unaided, is being questioned. It is recognised that it is difficult to move jobs to people, especially in certain locations which lack a sufficient level of economic activity and where local demand is weak. On the other hand, moving people to jobs is also problematic as commuting distances increase and generate ever higher social and environmental costs. Furthermore, there is often a lack of affordable housing in job-rich areas such as the CBD.

Hence, there is a need to develop public transit options and support multi-functional nodes such as Activity Centres which will strengthen a polycentric pattern of development and city-regional centre ties. Place-making strategies are also needed to improve the attractiveness of areas with falling or low housing values (thus fostering both retention and mobility), while the private rental market requires to be strengthened with an emphasis on the provision of affordable housing.

Distressed/Vulnerable Areas

Central to the above discussion of globalisation, economic restructuring, and housing/labour market linkages is the issue of what are termed in OECD countries "distressed areas". These areas are found in all major metropolitan areas. Many OECD countries, such as France and the United Kingdom, have developed policies to deal with the problems of social exclusion and

unemployment in large urban regions often involving Ministerial Task Forces, usually under the national Prime Minister's Office.

In Europe, national, regional and local governments are involved in re-integration efforts. In the mid 1990s, OECD undertook a comparative study of policies addressing the problem of distressed areas which noted that although the neighbourhood level is important in addressing social exclusion, an approach based on the wider context and the multi-dimensional, multi scale setting is considered necessary. It was also stressed that although cities can learn from one another's "best practice", policy makers need to be aware that since cities and neighbourhoods have experienced different trajectories, different tailor made strategies are required. The case of Manchester suggests a number of directions which may be relevant for certain areas of Melbourne (see Box 5.1).

Box 5.1. Manchester case study

Manchester, an old manufacturing city in the North of England and one of the comparator cities for the Melbourne Review "has yet to find any magic potion, that could link competitiveness with social inclusion". However, the successes of the city suggest a variety of messages about the ingredients of what helps to underpin the process of transformation which may provide insights for Melbourne. They are:

- The importance of scale, and its role in helping to create the scope for more seamless strategies across policy domains like housing, training, job creation and environmental improvements.
- The importance of tackling areas on a long-term basis if sustainable change is to be achieved in face of the scale of the problems.
- The need to develop clear strategies and for local authorities themselves to take the principal role in guiding them, but to involve local communities in genuine participation.
- The signal importance of creating strong partnerships across the numerous stakeholders with interests in localities and to develop coalitions, not only internally within cities but externally with places facing similar challenges and opportunities.
- The importance of developing planning frameworks that can give

confidence to potential investors and yet retain sufficient flexibility to accommodate changing circumstances

- The critical importance of developing structures that can implement and deliver programmes and projects – and the role that specific task forces may play in this.
- The role that marketing, image-creation and – frankly – boosterism can play in helping to change perceptions both of those directly affected and of those outside the area.
- The importance of encouraging some key individuals to act as champions who can drive developments and change.
- The fortunes of cities like Manchester depend critically on the shape and thrust of policies at a national scale. The national policy framework is vital in helping to create not only the legal and fiscal contexts to encourage regeneration, but also to address the regional and the macro-economic contexts which can reinforce or erode the aims of the local policy of cities like Manchester. (Also see section on Comparator Studies).

DIIRD and DOI fully recognise that improving the image and self-confidence of distressed or “at risk” areas in Melbourne can do much to make them attractive to industry and business, particularly to knowledge intensive firms that are poorly represented in these areas. There is considerable potential to improve the appearance and functionality of activity centres such as older industrial estates through *place-making initiatives*. Some older industrial estates are declining and require attention to avoid blight.

It is suggested by DIIRD that there may be scope to “kick start” the development of some areas by relocating some back-office government office functions from the CBD. While the West for example has Victoria University, there might be potential to encourage the relocation of some highly specialised R&D, university and hospital functions (e.g., teaching hospital). There might also be scope to retain more students in the area by offering a wider range of courses at tertiary institutions. Up-market housing estates can contribute to improving the image of a much wider area than their immediate neighbourhood and could be encouraged, for example by providing access to premium locations such as rivers and on hills.

Increasing the average skill level of residents could also make these areas more attractive to a wider range of businesses. This could be tackled by developing a local culture of “life long learning”, for example through fostering co-operation on joint programs between schools and training institutes on the one hand and local businesses on the other. Developing the capacity of local communities to act co-operatively is a powerful way to assure their long-term ability to overcome disadvantage and establish themselves as attractive locations for business. This could be addressed through community capacity building programs and through initiatives such as linking the requirement for broadband access in new subdivisions with local educational programs and community activities.

Planning for “at risk” areas needs to be tackled jointly by the Commonwealth, State and councils through a “triple bottom line” plan for each area. A case-by-case growth strategy could be developed with the best existing firms in these areas with the objective of increasing their capability through upgrading their equipment and production processes. There could also be scope for funding allocated to the various business and employment assistance programs offered by the three tiers of government in these areas to be pooled and allocated locally according to local priorities. This would permit funding to be targeted to those programs that are most consistent with local priorities.

Attention is also being directed to the issue of social exclusion/distressed areas through the Demonstration Projects of the Office of the Victorian Premier’s Community Building Initiative and the Community Support Fund (see Box 5.2). This type of multi-sectoral strategy could usefully be more strongly connected to the DOI Metropolitan Strategy.

Box 5.2. Community building projects

On October 8th, 2001, Victorian Premier Steve Bracks launched a AUD 7 million program stating that community problems such as unemployment, social isolation and family breakdown could only be significantly reduced if governments changed the way in which they operated.

“Society faces many complex problems – the gap between the haves and have nots is expanding. We do not pretend that governments can fix these problems alone – we understand that stronger partnerships with community are vital” said Premier Bracks.

The nine projects are to be established in metropolitan Melbourne and regional Victoria include: Maribyrnong, Darebin, Greater Dandenong, Greater Geelong, Shepparton, Warrnambool, Pyrenees and Central Goldfields, Bass Coast and East Gippsland. The projects will include one focusing on the Indigenous community, specifically designed to reflect and respect the cultural traditions and needs of the Aboriginal community. Each project is to be based on the particular concerns of the community and partners involved. Communities may, for example, decide to:

- Find new people to play a role in local organisations or form new groups to address community issues.
- Identify new employment activities which will benefit residents and businesses.
- Request new resources to meet emerging needs.
- Make services more appropriate for people from different cultural backgrounds.

The initial AUD 7 million is to be spent over three years to help the chosen communities identify needs and develop strategies to tackle them. The partnerships are seen to require long term support and a flexible approach to achieve optimum results. The results of the demonstration projects are to be used to guide changes to programmes and services. Non governmental agencies and church organisations would participate as well as a wide range of business organisations and philanthropic bodies. The Government was transforming the role of the Community Support Fund to place a greater emphasis on community building projects. The Fund can make grants to partnerships involving community members and organisations, as well as local governments seeking to undertake community building initiatives.

Source : Media Release from Office of the Premier, October 8, 2001.

The source of finance of the CSF is, however, a matter of some controversy. As can be seen from Box 5.3, the CSF draws its finance from gambling, seen as a growth industry in Victoria and organised under the 1991 Gaming Machine Control Act. However, the impact of gambling in poor communities of Melbourne is a matter for concern which is giving rise to investigation.

Box 5.3. Community Support Fund

The Community Support Fund (CSF) was set up to ensure that a proportion of Government revenues from electronic gaming machines in hotels is made available for worthwhile projects which will benefit the Victorian community. It is a significant source of funding for projects at both the local community and state-wide level.

The CSF provides the opportunity to fund projects which often do not fit within existing government funding programs but which have the potential to improve the well being and lifestyle of the communities which they will serve. It aims to address specific needs within communities especially those experiencing social and economic disadvantage, by combining community and government resources to build community capability. The CSF will work with communities to develop positive outcomes which meet local needs.

The Fund was established through an Act of Parliament, the Gaming Machine Control Act 1991 and funds projects in the areas of: gambling research, preventing problem gambling and assisting problem gamblers; drug education, treatment and rehabilitation; financial counselling services and assisting families in crisis; youth, sport or recreation programs; community advancement; arts and tourism.

In designing the Community Building Activity the Victorian Government has taken into account policy initiatives in other countries. In most European countries this type of initiative is usually set up at the national level under the Prime Minister. For example, the Victorian initiative has taken into account the United Kingdom experience whereby a Social Exclusion Unit was set up in 1997 by the Prime Minister (see Box 5.4).

Box 5.4. Social Exclusion Unit, United Kingdom

The Social Exclusion Unit (SEU) was set up by the Prime Minister in December 1997. Its remit is to help improve Government action to reduce social exclusion by producing "joined up solutions to joined-up problems". It works mainly on specific projects chosen by the Prime Minister following consultation with other Ministers and suggestions from interested groups. The

Unit is staffed by a mixture of civil servants from a number of Government departments and external secondees from organisations with experience in tackling social exclusion.

The Unit works on issues that affect a range of Government departments and does not duplicate work being done elsewhere in Government. Since 2001 the Unit has been located in the office of the Deputy Prime Minister and has produced a report on Preventing Social Exclusion (2001). The SEU has adopted new ways of working to improve effectiveness and desired outcomes. This includes:

- wide ranging consultation with groups affected in all SEU projects;
- and ensuring their involvement in implementation, such as the role of communities in the National Strategy for Neighbourhood Renewal;
- the setting up of cross-cutting units such as the Rough Sleepers and Teenage Pregnancy Units in Whitehall to ensure joined up policy and delivery;
- ensuring that all reports have monitoring and evaluation built in as part of an action plan such as the National Strategy for Neighbourhood Renewal;
- the development of partnerships at local level to promote the “bottom up” approach of working such as Local Strategic Partnerships; and
- the setting of clear, outcome focused targets, such as the reduction of conceptions to teenage mothers and setting floor targets which articulate a threshold below which standards must not drop, such as targets for deprived areas.

Source : Victoria Government website.

Assessment

The heritage of Melbourne’s manufacturing past and low density pattern of development (which has spread beyond the limits of the network of high frequency public transport), combined with more unstable working conditions and emerging social problems means that the process of structural economic change (towards the service sector and a more modern

manufacturing sector) is certainly a more extensive challenge for Melbourne than for some other Australian cities. This heritage is embedded in the built environment and in the social capital of the people living in the many areas of Melbourne which have been hard hit by economic restructuring. It is one of the root causes of the high rate of “communities of vulnerability” signalled in the AHURI report.

For the time being, the State Government has, understandably, emphasised and focused most of its effort on developing the strong potential of the Melbourne Region as a modern metropolis ready to take up the opportunities which the globalised economy offers. The investment strategy of the 1990s has been successful in making central Melbourne a most attractive and vibrant city. The Metropolitan Strategy will guide land use and transportation to transform the wider region into a “networked city” of high quality. Some of the proposals contained in the Strategy are scheduled to be carried out over the short term. Other investments will be medium to long term projects. This means that although the Strategy is an excellent tool for setting the framework and achieving goals through land use and transport investments over the next 20 to 30 years, steps must be taken to make sure that, in conjunction with or as an integral part of the Strategy, specific measures are taken involving co-operation between State government departments and with local governments to respond to the urgent and emerging issues of what have been termed as “vulnerable” communities in Melbourne.

The Metropolitan Strategy also notes early on that “Most of the built form that we see will still exist in 2031”. The Strategy is, therefore, very much a planning document aimed at shaping the future. As it goes forward, it will therefore be important to maintain and develop policies which address existing and emerging social, economic and environmental issues in those places which may not be scheduled to benefit, at least in the short or even medium term, from the investment programme. The Strategy also needs to evaluate the locations of planned Activity Centres in relation to the location of “vulnerable” areas in order to align the two to the extent that this is possible.

The examination of the linkages between housing and labour markets in Melbourne suggest that:

- Housing market – labour market links in metropolitan areas have developed a new level of complexity.
- Employment location appears to be re-shaping the pattern of metropolitan development in a number of new and different ways in Melbourne.

- Even though residential movement to the metropolitan fringe is often motivated by the availability of relatively inexpensive housing rather than job opportunities, this option is no longer linked to disadvantage. In choosing a fringe residential location, many people may substitute mobility for proximity to work in a complex set of trade-offs.
- Particular middle-suburban areas of Melbourne are among the most socio-economically depressed. This challenges the view that labour market disadvantage, particularly unemployment, in depressed suburban areas necessarily reflects poor proximity to jobs although this may be the case in some fringe municipalities.
- The focus on increasing residential densities as a means to solving social, economic and cultural problems in contemporary society should not be applied uniformly and requires to be examined critically. For example, higher density growth in certain areas of central Melbourne has not produced affordable housing.
- Housing policy cannot be expressed independently of an adequate understanding of the spatiality of jobs and the nature of the job housing links.
- A multi-nodal approach (which is, indeed, adopted in the Metropolitan Strategy) should be linked to a more pro-active approach to influence industry location and job growth in order to mitigate the spatial inequalities and enhance levels of self-containment.
- Job location would not, however, necessarily be a panacea for resolving the unemployment problems of the most severely disadvantaged labour market groups in these locations because unemployment does not necessarily result from poor proximity to jobs, but from a mismatch of skills to available jobs.
- Targeted job creation and labour training programs and encouragement of local enterprise creation are also needed to help address the mismatch of worker skills and experience with the requirements of available jobs.

There could be a more pro-active role for government in ensuring that *affordable low cost housing is available in job growth areas*. Such a policy could involve, for example: a) provision of lower cost housing in the

development of some residential developments, including high density projects; *b*) provision of low cost housing in the Core Region for middle income key workers who earn too much to benefit from social housing; *c*) innovative solutions can involving partnerships with the private sector (developers and employers); *d*) use of public land in order to disassociate the cost of the housing unit from the land price and other measures to improve the functioning of the housing market.

Chapter 6
Health and Environment in Metropolitan Melbourne

Health

Innovations and New Policy Directions in Urban Health – International Trends

Urban health has been a subject of public concern since the foundation of cities. The World Health Organisation's (WHO) definition of health includes social well being. Urban health encompasses the direct pathological effects of chemicals, some biological agents, and radiation as well as the influence of psychological and social dimensions of daily life (including housing, transport, work and numerous other environmental characteristics of urban areas and their hinterlands).

Cities are localities of relatively high exposure to:

- *Environmental hazards* including air pollution, noise, water contamination and solid wastes. According to recent data from 115 large European cities, about 25 million citizens are exposed to winter smog, whereas around 37 million citizens are exposed to summer smog. These ambient atmospheric conditions have negative impacts on vegetation and probable links with a growing incidence of respiratory illness of citizens;
- *Physical hazards*, especially industrial, occupational, and traffic accidents related to the increasing complexity of urban infrastructure, services and technology. According to the WHO, an estimated 30 per cent of all deaths and 30 per cent of the total loss of disability-adjusted life years (DALY's) in the European Region are related to environmental and lifestyle factors that might be controlled or influenced by health promotion at the workplace. The WHO also notes that accidents in homes, workplaces and on roads are a leading cause of injury and death, especially to children, youth and older citizens.
- *Social hazards* such as infectious disease, unemployment, social unrest and criminality. Research findings show that the life expectancy of black male residents in Harlem, New York, USA is

shorter than that of black residents in North America; in addition, black male residents in Harlem have a shorter life expectancy than do men living in Bangladesh. Evidence of relation between unemployment and health status is also growing. For example, national data from Sweden show that persons who have experienced repeated periods of unemployment (about 1.65 million or 30% of the population aged from 16 to 64 years) have suffered long term illness. This figure is an increase of 500 000 from 1990 to 1997. Thus the distinction between biomedical models and ecological interpretations of urban health is fundamental. This distinction is based on the hypothesis that some individuals become more susceptible to certain illnesses because of their differential exposure to numerous environmental, economic and social factors that can promote or be harmful to health and well-being. This interpretation does not ignore the influence of genetics, individual behaviour, or primary health care. It maintains, however, that alone, these factors do not address effective relations between social problems and illness (for example, poverty) or positive social dimensions and health promotion (for example, public education). (R. Lawrence, 2002).

Policy Context for Public Health in Australia and Victoria

Improving territorial governance is a challenge facing all OECD countries today. Even though OECD recognises that there is no one best model of good governance (*OECD Metropolitan Principles*, 2001), a key objective of OECD Territorial Reviews is to identify the most efficient and balanced allocation of functions among governmental (and non-governmental) bodies, both horizontally and vertically, as well as the best way to achieve this.

The opportunities and threats surrounding efforts to improve health and wellbeing in Melbourne and Victoria, are an excellent illustration of the complexity of the challenge which the improvement of territorial governance in Victoria and other Australian states poses. One key aspect of governance is fiscal federalism, or the analysis of the vertical structure of government which examines the roles of different levels of government, what responsibilities and resources should be allocated to which level of government, and how the institutional framework should be shaped to reach political objectives. In Australia, government responsibility for health and community services is shared between the Commonwealth and the States. The total recurrent expenditure for health care in Australia for 1995-1996 was \$41.3 billion, representing about 8.5 per cent of GDP (AIHW 1998 in

Duckett, 1999). Of that about half was funded by the Commonwealth and about one fifth from the States; about one eighth was funded through health insurance with a similar amount from individuals.

It is widely recognised that the attribution to the State of responsibility for hospital services, and to the Commonwealth of responsibility for medical services, the joint responsibility for home and community care projects, and the divided responsibility for disability services, has created a complex policy context which renders coherent policy making at the state level extremely difficult, and dependent upon Commonwealth/State relations.

Although the debate concerning Commonwealth/State relations in health is too vast to be considered in detail in this Review, from the Commonwealth's standpoint three main problems can be identified (Duckett, 1999):

- *Escalation of health care expenditure (see Box 6.1).*
- *Cost shifting from states to the Commonwealth.* The most prominent example of cost shifting is where a public hospital (funded at state level via a mixture of Commonwealth/state Medicare Agreement funds and state funding) closes an outpatient service which is replaced by a "privatised" service where specialists bill Medicare as consultants. In this way, costs that were previously met at the margin by a state government via the hospital would now be met by the Commonwealth. Cost shifting potential may reduce the likelihood of micro reforms by states.
- *Difficulty of implementing Commonwealth policies.* Implementation is often undertaken by the states on behalf of the Commonwealth on the basis of negotiations.

On the other hand, problems faced by States in relation to the Commonwealth include:

- *The issue of vertical fiscal imbalance (VFI).* Since 1942, the Commonwealth has been the principal taxing power in Australia, in 1994-1995 raising 76 per cent of all tax revenue. State governments have had a proportionately greater service delivery responsibility.
- *Overlap in programs addressing the same need.* Although over half of the expenditure on Commonwealth/state programs for health is incorporated into the single Medicare Agreement, there is a large number of small specific programs (e.g., AIDS or drugs and

alcohol) which can lead to boundary problems with administrative costs. Unless there are careful co-ordination strategies, it is possible to end up with a number of separate programs addressing the same issue.

- *Gaps in government provision:* Gaps in provision may arise, for example, in community health and health promotion.

The broad context within which health reforms are taking place in Victoria also reflects the *market-dominated reform agenda of the 1980s and 1990s at state and national levels*. These changes have affected all policy sectors, and, in particular, the health sector, given its centrality to public sector expenditure and the predicted growth in demand for health services (Hancock, 1999a). In brief, the State of Victoria, under the Kennett Liberal Government (1992-1999) restructured the public sector on the basis of the need to reduce the current account deficit incurred by the outgoing Labour Government and reduce interest payments. Both the Victorian Management Improvement Initiative (MII) (Government of Victoria, 1993) and the Victorian Commission of Audit (1993) gave direction for public sector restructuring reforms to financial and asset management systems and a new management approach to performance based on planning and accountability for outputs and outcomes. Budget cuts affected government expenditures: between 1991-1992 and 1998-1999, Gross State Product (GSP) grew at almost twice the rate of expenditure on education, health, social security and welfare (12.2% compared to 6.9% in real per capita terms) Compared with New South Wales and the average of other states and territories in the period 1992-1998, Victoria spent less per head of population on education, health and welfare. Employment in Victoria's state public sector fell by 66 000 over the same period. The cut of -23 per cent in Victoria compares with -0.2 per cent in New South Wales and an average of -1.2 per cent in other states and territories (Hancock, 1999a).

The reforms were based on the following principles:

- refocusing government departments on the core functions of government – namely policy development, resource allocation and specifications of public benefits and services, monitoring and regulation, in other words “steering” and not “rowing”;
- contracting out publicly funded service delivery to separate service delivery agencies – whether they be “public” (owned by the State), “independent” (non-government, not-for-profit), or “commercial” (for profit);

- establishing new forms of control and accountability across publicly funded services to focus on outcomes and “value for money” to government within pre-defined policy, regulatory and financial parameters; and on empowerment of customers/consumers within a redefined ethos of “service to the public”.

In view of these wide ranging reforms, questions have, and continue, to be raised about the governmental focus on economic efficiency and the market as reflected in policies of privatisation, competition and contractualism, and, more broadly, the role of the State and changes in governance (Hancock, 1999a). This being said, it has to be recognised that in all OECD countries, the question of the rising cost of health will continue to put pressure on governments to prioritise and reduce the costs of public health.

Box 6.1. What is driving up health care costs in Australia?

It is now well recognised that health care costs are rising in Australia. Health expenditure as a proportion of GDP has risen from 7.4 per cent in 1975-1976 to 8.6 per cent in 1994-1995 (AIHW 1997), and settled at around 8.5 per cent of GDP for 1995-1996. This compares with lower expenditures on health in New Zealand (7.5 per cent) and the UK (6.9 per cent) and higher expenditures in the USA (14.3 per cent) in 1994 (OECD 1996). While much of the debate on funding focuses on government expenditure, it should be acknowledged that a growing proportion of Australians seek out alternative therapies, estimated at over \$1 billion spent on alternative medicines and therapists (Atkin and Kristoffersen 1997; Bisset 1996; MacLennan 1996).

Rising health care costs are thought to be the result of a combination of factors which include:

- *an ageing population:* the rate of persons aged 65 and over is projected to grow at around 2 per cent between 1991 and 2006, and the percentage aged over 80 by 4 per cent, with growth expected to continue for the next 50 years.
- *growth in consumer demand:* This is due to rising expectations on the medical “fix” to individuals health problems along with better informed patients who demand quality care.
- *growth in biotechnology* is expanding the range of possible interventions.

High tech high cost treatments such as IVF and coronary bypass surgery, CT and MRI scanning have become more commonly expected by patients and have resulted in higher costs.

- *system inefficiencies:* reflecting overlap and duplication of services, inefficient management, cost shifting (from state to Commonwealth in areas such as outpatient and emergency services and mental health).
- *growth in pharmaceutical expenditures:* pharmaceuticals are a major tool used by practitioners trained in the biomedical model of illness/treatment. Pharmaceutical benefits constitute the fastest growing area of pressure on Commonwealth expenditure with estimated growth of over 12 per cent (Willis and Bealey 1995), although growth slowed slightly in 1996-1997 to 9.1 per cent (Department of Health and Family Services).

Source : Abstracted from "Health Care Funding and Rationing Health Care", Linda Hancock and Paul Mackey, 1999 in "Health Policy in the Market State", 1999.

Commentators argue that acknowledging the inevitability of rationing of health and medical services in the future will require debate about: how much to spend in total; what general services are to be publicly funded; and which groups are entitled to what care. The report on Health Public Sector Restructuring and the Market State [Hancock, 1999 (a)] advises that decisions on such matters should be informed by community consultation.

Assessing Public Health in Melbourne and Victoria

Health Statistics

It was not until the mid 19th century that the relation between urban living conditions and the health status of citizens was systematically identified and studied using statistics. In Victoria, it is well recognised that health planning requires information regarding the health status of the population now and in the future. In 2001, the Epidemiology Section of the Health Intelligence and Disease Control Branch of the Public Health and Development Division of the Victorian Department of Human Services produced the first comprehensive assessment of the health status of the Victorian population contained in two volumes: the Victorian Burden of Disease Studies on Mortality and on Morbidity. This Study provides vital evidence concerning the prevalence, causes and impact of poor health on

Victoria and its population and has informed the directions of Public Health actions and initiatives. The Study uses the methods developed in the Global Burden of Disease Study adapted to the Victorian context. It provides information for 1996 and projected to the year 2016. Mortality, disability and illness arising from over 130 diseases, injuries and risk factors are measured in Disability-Adjusted Life Years (DALYs) by Local Government Area. The mortality component of the burden of disease is measured in Years of Life Lost (YLLs). The key findings of the Study revealed that:

- *Ageing and higher life expectancy are increasing the demand for health services* at a rate greater than the overall population growth in Victoria (most people consume the bulk of their health resources in the last two years of life).
- *Medical technology is growing rapidly* and offering nearly limitless ways of spending health dollars. Even though health expenditure is increasing as a proportion of GDP, health budgets are already struggling to keep pace with demand. In such an environment, the imperative is seen to be focused on making choices about resource allocation and to make these choices transparent.
- *There is great inequality in health status of the Aboriginal people in Victoria* who have a shorter life expectancy by eight to eighteen years. Identification of measures to increase the access of Aboriginal people to preventive and curative health services are now considered to be a matter of the highest priority.
- *Geographical inequalities in life expectancy and health were identified*, particularly in Gippsland, the Grampians and the inner suburbs of Melbourne. A large part of these differences is related to socio-economic status. For women, the LGAs of Manningham, Monash and Bayside have the best health status, while Hume, Northern Grampians and Port Phillip have the lowest. For men, the LGAs of Manningham, Monash and Bayside have the best health status, while Port Phillip, Yarra and Maribyrnong have the lowest. Similar information is also available by region across Victoria illustrating that the metropolitan regions have better health status than the rural regions.

Projections

The Victorian Burden of Disease Studies provide a glimpse into the future health of Victorians and are seen as a first step to inform decision making on the appropriate mix of services to meet future health demands. It

is planned to collect complementary information on costs and effectiveness of current and potential new health interventions to determine which health service interventions give value for money and which interventions give too little benefit for what they cost. In the future the following health trends are expected:

- In 2016, a 25 per cent drop in the rate of all-cause DALYs is projected for men and a 17 per cent drop for women. Mortality is forecasted to drop considerably faster than disability.
- Large health gains are expected in all cardiovascular diseases except cardio myopathy. Large decreases in the rate of DALYs are also predicted for injuries, chronic obstructive pulmonary disease in men and a number of cancers. Adverse mortality trends are driving projected increases in the burden rates from lung cancer and dementia in women and heroin overdose, melanoma and diabetes in men.
- In absolute numbers, the burden will become almost equal in size between men and women. Cancer will be the largest cause of burden in 2016 because improvements in cardiovascular health are expected to outpace the slower improvements in cancer. An increase in the burden from degenerative diseases due to ageing of the population will increase the size of neurological, sense, and musculoskeletal disorders relative to other conditions. Injuries are expected to decrease in size, partly due to favourable trends and partly as a consequence of ageing, as injuries are much more common at younger ages.
- In women, dementia may take over from ischaemic heart disease as the largest cause of ill health in Victoria in 2016. In men, dementia is also set to make a big jump in the ranking order from eleventh to fifth. Diabetes, prostate cancer, hearing loss and heroin dependence in men and lung cancer in women are other conditions that will increase in the ranking order. Other conditions, like stroke in men and women, and road traffic accidents, suicides and chronic obstructive pulmonary disease in men will drop considerably in their ranking order of projected burden in 2016.

Future Policy Directions Developing a Strategic Response

Trends in Social and Health Policy and Expenditure in Victoria

Policy and Funding Plan 2001-2002

The Public Health Division's funding and purchasing policies align with those of the Department of Human Services of Victoria. The Division funds a large number of programs that deliver services to the community and other key stakeholders. These are divided into two categories: externally delivered services and internally delivered services.

Externally delivered services are provided by agencies on the Department's behalf. They include a number of the Division's prevention programmes such as immunisation, the needle and syringe program, and early detection/intervention programmes. Internally delivered services are provided by the Department directly to the community and include environmental health services such as *Legionella* inspections and investigations and disease control activities such as the investigation of cases of notifiable communicable diseases and contact tracing.

The Public Health Division also allocates a significant proportion of its budget to a number of other public health programmes aimed primarily at providing infrastructure support and building capacity. These programmes include monitoring and surveillance activities, medical research, infrastructure support, health promotion campaigns and diagnostic testing.

Funding externally delivered services means that the Division allocates resources to an organisation to provide services to the community, or a select target group within the community. The Division's role is to set strategic direction and monitor the performance of the organisations funded. The major instance of this is the provision of drug treatment services. Other examples include prevention programs and early detection programs.

In October 2001, for the first time, the Public Health Division of the Victorian Government Department of Human Services presented its Policy and Funding Plan for the year 2001-2002 in a comprehensive document which was made publicly available (www.dhs.vic.gov.au/0107108) in order to become more transparent and accountable to the community. The Public Health Budget for the period 2001-2002 is estimated to be \$237.3 million (Budget Paper No. 3 as cited in Public Health Divisional Policy and Funding Plan, 2001-2002).

The Division will receive \$22 million funding from the Community Support Fund (administered by the Department of Premier and Cabinet) to fund a range of drug initiatives and programs, as well as \$21 million from

the Victorian Government Drug Initiative. An Interdepartmental Committee has been established to oversee the implementation of the Victorian Government Drug Initiative.

Total Commonwealth funding constitutes approximately 25.5 per cent of Public Health's total budget. The Commonwealth provides funding for a range of programmes. These are largely provided as part of the Public Health Outcome Funding Agreement (PHOFA). In 2001-2002, it is estimated that PHOFA funding will total approximately \$44 million. Programmes to which PHOFA contributes funding include: breast screening, cervical screening, childhood immunisation, influenza immunisation for older persons, HIV/AIDS, women's health, national Illicit Drug Strategy, National Drug Strategic Framework. In addition to the PHOFA, other major Commonwealth Agreements that Fund Public Health activities are the Council of Australian Government's (COAG) Illicit Drug Diversion programme, and its Drug Policy (ABCD) program. In these cases, the purpose for which the funding is supplied is decided by the Commonwealth and subject to the conditions of the funding agreements. Public Health Victoria expects to receive approximately \$9.1 million through these initiatives during 2001-2002.

With its "whole of population" focus, many of the Public Health Division's services are undertaken centrally. Centrally administered programs constitute 77 per cent of total funding. These programs include policy development and review, state wide services and programs as well as many of the Division's statutory and regulatory responsibilities in disease control and environmental health.

Twenty-three per cent of the Public health Division's budget is allocated to regions. It is recognised that there is a need to strengthen the role of the Division at the local level to support local population health and community building strategies. The Department of Human Services divides Victoria into nine regions – four metropolitan and five rural – which co-ordinate the delivery of health and community services to regional populations, groups and clients. The Public Health Division's strategic focus on "closing the gaps" is motivated by disparities in the health status of the Victorian population across geographic locations. Metropolitan and urban areas often have different health issues to those of rural and remote localities. The Division recognises that this requires the adaptation of health programmes and service delivery to suit the unique needs of each community.

Many public health programs are targeted towards the Victorian community as a whole and are managed in partnership between the Public Health Division's central office and the regional offices. Centrally, the Public Health Division has responsibility for the development and

communication of policy and strategic frameworks, service objectives and plans and clear identification of its products. Regional offices are accountable for the development of their integrated regional service plan, targeted service provision to meet local client needs, and identifying potential gaps or opportunities to maximise the use of local infrastructure.

Based on the results of the study, the Public Health and Development Division has identified the following priority policy directions:

- Fill major gaps in knowledge about the effectiveness of interventions and the associated costs. The Public Health and Development Division intends to build on the information currently gathered for the Victorian Burden of Disease Study by linking it to studies of the cost-effectiveness of interventions for major health problems. The use of a common metric, the DALY, to measure all health outcomes helps to identify the relative importance of diseases and risk factors, and allows comparisons of the health gains expected from different health interventions. Such information will help to define the strategy to address future challenges posed by the ageing of the population, shifts in disease patterns and the explosion of the costs of health services.
- The initial analyses carried out for the Study will provide a framework for more detailed analysis of particular conditions, for burden of disease estimates for priority sub-populations, and for analysis of the impact of risk factors and health determinants to inform health policy making and priority setting. The Department of Human Services will continue to collaborate with the Australian Institute of Health and Welfare to incorporate improvements in data, methods and models into burden of disease estimates. Some of the potential priorities for future work are:
- Analysis of the indigenous (aboriginal people) burden of disease and injury as a first step towards assessing indigenous needs for health service provision and as a tool to monitor national progress in this important area.
- A full analysis of the attributable burden of socio-economic disadvantage in Victoria to support public health planning and monitoring of inequality in health status.
- Production of burden of disease estimates for Local Government Areas and the nine Departments of Human Services regions based

on state-wide analyses of health differentials by socio-economic and rurality status.

- Assistance to other states and territories to build on the Victorian and national studies but using state specific population and health data.
- Linkage of burden of disease analysis and marginal cost effectiveness analysis of potential interventions.

The coherent system of health statistics embodied in the Burden of Disease Study is a major advance in Victoria's ability to monitor population health (both levels and distributions) and to accumulate knowledge about causal factors. The use of a common metric such as the DALY for burden of disease analysis, measurement of clinical outcomes, and cost – effectiveness analyses can allow existing or prospective interventions to be judged both in terms of cost effectiveness and their relative impacts in reducing the burden of disease and ill health. This study, together with the parallel national study is seen as a first step towards exploring the usefulness of these methods to provide information to assist in health planning and priority setting.

The Burden of Disease analysis has provided a unique perspective on health – one that integrates fatal and non-fatal outcomes, yet allows the two classes of outcomes to be examined separately as well. Additionally, the burden can be readily disaggregated by cause for analysis at the level of diseases and risk factors, and can be estimated for any subgroup of the population for which data are available. Thus the results provide a valuable insight into the scope for further health gain in Victoria. This responds to recognition in the Public Health and Divisional Policy and Funding Plan 2001-2002 that:

"Equal access to and a fair distribution of health care services and health promotion activities is an important community expectation. Diversity of race, gender, ethnicity, cultural or linguistic background and geographic location are important features of our society. These differences can lead to inequalities in health status. Public Health acknowledges this and is designing and targeting its programs to facilitate maximum equity in access to health services and programs across the Victorian population."

Victorian Municipal Public Health Planning Framework

An important initiative taken by the Department of Human Services (DHS) in co-operation with the Municipal Association of Victoria (MAV)[

and the Victorian Local Governance Association (VLGA)] and local governments deserves to be highlighted. This is the multi-sectoral approach to health improvement embodied in the Victorian Municipal Public Health Planning Framework (MPHPF). This innovation is well in line with the international trends in favour of taking a broad approach to public health.

Box 6.2. Victorian Municipal Public Health Planning Framework (MPHPF)

The MPHPF initiative provides an excellent cross sectoral framework for achieving health outcomes in specific localities and proposes an innovative analytical policy framework which could usefully be employed not only by other government departments in Victoria, but in other OECD countries.

The MPHP Framework (finalised in June 2001) is intended to encourage municipal public health planning of a high standard and foster consistency in the scope and approach across the State. More importantly, it is intended as integral to any comprehensive municipal strategic planning process. The planning approach is consistent with the existing legislative planning requirements contained in the Health Act and the Local Government Act which emphasise enabling rather than a prescriptive legislative framework.

The MPHP notes that patterns of public health have changed over recent decades and that there is a need for new strategies and structures to reflect this change. The overall health status of Victorians has improved over the past 20 years, *but has been shown to vary according to where they live*. There is increasing recognition that greater effort is needed in preventing ill health and creating well being especially among those who are most disadvantaged. At the same time it is clear that the determinants of health are now more associated with causes of death and disease which are more related to lifestyle than to infectious disease. By 1994, 76 per cent of the then 210 Victorian councils had a MPHP and others were in the process of developing plans. However, concern was expressed about a lack of skills and leadership as well as insufficient resources allocated to implementation, and an overall absence of council ownership of the plans. A survey by DHS in 2000 found that over 52 per cent of the 78 new councils were implementing a Plan, 18 per cent were developing a new Plan, and 15 per cent were under review.

The Framework stresses that physical and social environments play major roles in the health of communities. Since much of the planning profession purports that its focus revolves around the design and creation of sound places for people, planning and public health professionals are

intrinsically linked. It notes importantly that *urban planning can and does serve as a form of primary prevention and contributor to health outcomes*. It argues that urban planners must understand and accept that their decisions have consequences, both intended and unintended, that could potentially lead to ill health within communities. However, there are techniques and skills that planners can use to promote the building of strong, healthy neighbourhoods, towns and cities. Some universally applicable questions that can be asked are:

What are the potential unintended consequences of the planning effort?

Are the planning efforts addressing the symptoms of a problem or the root causes? For example, are housing programs that are aimed at the poor simply displacing this population, or are they truly working to solve the underlying issues behind the scarcity of safe, clean, affordable housing?

Are planning efforts working on behalf of healthy urban public policy? A system must be in place that enforces checks and balances between policy-makers, policies and plans.

What are the direct and indirect effects of planning decisions? Politicians, planners, government officials and citizens must all be able to understand fully the reasoning and implications behind policies, that is asking questions that look at the whole picture, not just one part.

It is argued that asking such questions in urban planning practice will promote critical analysis of the decisions being made regarding the future of cities. Such questions are indispensable to the process of healthy urban planning and sustainable development.

The Framework draws on a number of approaches to public health planning, including:

Strategic local area planning – a strategic and integrated approach to municipal public health planning will promote a model for integrating physical, social and economic planning and has community participation as a key principle.

Social model of health – participation, sense of community and empowerment are independent social factors contributing to individual and community level well being.

Health promoting systems – a strong relationship exists between people and place; people's health and wellbeing reflects their socio-economic status, and accordingly, where they live. *Different locations afford varying degrees of*

access to healthy environments, food, services, amenities, health information, education, employment, housing and opportunities to experience sense of community and sense of place. A holistic approach will ensure that the inter-relationships between all major issues impacting on individuals and families within the context of their local communities will be taken into account when planning for health within an integrated framework.

Focusing on health outcomes – such as utilising information from the Victorian Burden of Disease Study

Participation and partnership – approaches in which people increasingly share in planning and decision-making and are empowered to affect the outcome of the process. Clients, community groups, government departments and other agencies need to participate in health planning – not only to ensure a match between local needs and priorities, but because participation itself is health promoting. Clients/consumers and the wider community need to participate meaningfully to ensure appropriateness, community ownership of processes, programmes and outcomes and the promotion of Council accountability to the community for its decisions on priorities and resource allocation. Some useful analytical tools such as a Stakeholder Matrix can be applied to improve co-operation.

Source : Municipal Health Planning Framework, Department of Human Services, Victoria.

Recognising the Role of Social Capital in Health

“Social capital” has been signalled as a key concept in the Policy and Funding Plan:

“Social capital has been variously defined as the networks, norms, values and understandings that facilitate co-operation within or among groups. The significance of social capital is that it appears to directly support well being”.

Research links social capital, and access to social capital with:

- improved health;
- greater well being;

- better care for children (the social connectedness of mothers has been shown to reduce the risk of child abuse and social problems among children and teenagers);
- lower crime (neighbourhood trust is associated with lower crime rates);
- improved government (regions or states with higher levels of trust and engagement tend to have better quality government).

To this end, the Public Health Division is stressing that its goal is to consult with communities in order to develop empowering partnerships and strengthen support structures with a view to multiplying the social, economic and environmental benefits associated with positive health (see section on Municipal Public Health Planning Framework). A review is currently underway to:

- enhance relationships/partnerships between the Division and regions;
- develop a model that will assist to progress the Division's strategic interests and objectives;
- provide a resourcing level that is sustainable from Divisional and regional perspectives.

Assessment

Public health in Victoria is generally of a very high standard, and the State Government, in conjunction with the Commonwealth Government and local authorities is deploying a remarkable effort to improve the health of Victorians.

However, in terms of impacts on the health care system, there is some concern about the long term sustainability of social and health programmes and the impacts of the far reaching policy and public sector reforms at state and national levels which have important effects on the health sector.

More specifically:

- In line with recommended international best practices, the public health strategy for Melbourne and Victoria should adopt a broad interpretation of health which implies closer collaboration of the Department of Human Services with other governmental sectors

(i.e., education, employment, planning, health, media, sport, tourism, culture, etc.) and between levels of government (local, state and commonwealth), as well as with the private sector and civil society. The object of this approach is to mainstream health concerns into other areas and, importantly, to build social capital which is the cornerstone of progress.

- The Victorian Government is to be commended for its initiative of providing health and disability data by local government area and should continue to pursue this activity which is essential for coherent and focused policy making as indicated in the 2001-2002 Plan; They are encouraged to work with other Australian states and territories and internationally to encourage other governments to adopt this approach.
- There is a need to further examine Commonwealth/State/local government relations in terms of finance and institutional structures to achieve governmental objectives for health and welfare.
- Strategies are required to contain the rising cost of health should focus on social as well as economic efficiency.
- Enhancing the role and responsibilities of local authorities in conjunction with appropriate funding in connection with municipal health strategies could improve citizen satisfaction. In view of the need to ration health and medical services, decisions on how this should be achieved should be informed by community consultation.
- Health strategies should stress a focus on prevention and building health concerns into urban planning decisions and community building strategies as exemplified in the Victorian Municipal Public Health Planning Framework.
- In view of the important geographic and socio-economic disparities in health status in the GMR of Melbourne, a broader approach to the Metropolitan Strategy could improve the co-ordination of policies and programmes to support mainstream policies with specific area based and population targeted policies which take into account the particularities of the places and people concerned. The Public Health Division recognises in its Report that health programmes and service delivery need to be tailored to meet the unique needs of each community.

- The Victorian Government should strengthen capacity for policy implementation in the field of health through co-operative efforts and through special events (such as an annual Healthy Life Day) or other forms of modern public communication as well as encouraging municipalities to adhere to the Municipal Public Health Planning Framework..

Environment

The Environmental Situation

One of the striking particularities of Australia is its diversity in fauna and flora compared to other countries. Indeed, it is one of the 12 nations which contain 60 to 70 per cent of all known species and it also contains a large number of species that occur nowhere else. The country is an ecologically unique continent characterised by mega – biodiversity and a good overall environmental situation (OECD, 1998). Nevertheless there is still room for future improvements, and threats on the future situation exist; indeed biodiversity is declining.

In Australia, *water resources* are scarce and quality is affected by turbidity and salinity for natural reasons and because of human activities. Greenhouse gas emissions are still high. This is due to sustained economic growth (GDP growth is over OECD average, 2.5 per cent compared to 2 per cent in 2001), increasing road traffic and insufficient use of renewable energy compared to fossil energy that accounted for 57 per cent of total greenhouse gas emissions in 1998 (OECD, 2001a). In addition, waste management is in most cases insufficient and recycling should be improved.

Despite the fact that Melbourne's citizens describe their city as having a high-class environment, the city's environment issues do not radically differ from those encountered in other Australian cities. Moreover a survey conducted in 2000 showed that 69 per cent of Victorians expect the environment to deteriorate in the next decade. Aware of this concern, the State Government increasingly requires all public initiatives and private developers to use the triple bottom line criteria (a trade-off between economic development, social and environmental performance in resources management) and has compiled information about best practices and results.

Air and Greenhouse Gas Emissions

As compared to other OECD countries, in general, Australia does not have acute air pollution problems. According to the air quality monitoring

stations (12 in the Phillip Bay region) that provide an hourly bulletin (www.epa.vic.gov.au/eq), since 1998, metropolitan Melbourne averages less than 10 days a year of poor or very poor air quality. Compared to other major cities such as Paris, Athens, Osaka or Frankfurt, Melbourne has the lowest rate of nitrogen dioxide emission and one-hour ozone concentration (although this fact should be interpreted with caution as there are no international standards for measuring gas emissions¹). Nevertheless, per capita greenhouse gas emission is a key issue for metropolitan Melbourne. In 2002, the main sources of greenhouse gas emissions in summer are motor vehicles (44%) industry (27%) and households (17%).

Table 6.1. Environmental performance Metropolitan Melbourne, 2000

Item	Performance
Air	Good to very good
Bleach	Good to very good
Open space	Good to very good
Water	Very poor to fair
Waste	Fair to good
Renewable energy	Good to very good
Green house gas reduction	Good to very good
Triple bottom line	Very poor to fair

Source: Environmental indicators for metropolitan Melbourne (EIMM), 2000.

It is expected that lead pollution will improve significantly since the introduction of lead-free petrol from 1 January 2002. A number of air pollutants are still of concern in Melbourne, in particular ozone, where the greatest contributor to ozone formation is the motor vehicle, and visibility-reducing particulates. In winter pollution from domestic wood combustion for heating becomes obviously more significant and may lead to smog events (air particles). The Victorian EPA is developing a statutory policy to prevent the manufacture and supply of wood heaters that do not meet the Australian Standards, and also to encourage the correct installation of wood heaters.

Smog events may also occur in summer, however, and correspond to high concentrations of ozone. But this is very infrequent; according to the Australian Institute of Urban Studies and the City of Melbourne (2001), there were about 6 events every year since 1999, and 10 events in 2000 (2 in January, 4 in February, 1 in March, 1 in November and 2 in December). Similarly, the air particle visibility index exceeded the objective on 26 days during the year (mainly from April to August, with a peak in July). This

situation is characteristic of all urban areas in the country such as Sydney, Adelaide and Canberra. Days of above acceptable levels ozone decreased about 84 per cent in seventeen years. Nonetheless, as Melbourne continues to grow, as the number of cars per inhabitant and the length of travel are simultaneously increasing (DOI, 2000) there are strong pressures due to past mono-centric urban planning, urban sprawl and poor public transport beyond the tramway system. In addition, levels of private car emissions, the increasing use of four wheel cars, and air-conditioning may hamper future improvements. Air conditioning in vehicles, but also in housing, dramatically increases greenhouse gas emissions by consuming energy and because most refrigerants that are released through leakage have a global warming potential. Moreover, the number of households is increasing at a higher rate than the population, 1.1 per cent compare to 0.7 per cent (DOI, 2000). This consequently increases energy consumption (which is one of the major sources of greenhouse gas emissions).

In terms of public health, two recent studies found significant association between air pollution and daily hospital admissions and air pollution and mortality in metropolitan Melbourne (EPA, 2000, EPA, 2001a). Ozone emission is correlated with hospital admission for asthma and cardiovascular disease, the same results hold for air particles, nitrogen dioxide emissions. Similarly, carbon monoxide emissions are positively related to cardiovascular disease and ischaemic heart disease.² Conjointly, respiratory mortality is correlated with air pollution (mainly ozone and nitrogen dioxide emissions).³ Observed effects are stronger in the warm season.

Beach, Water Quality and Litter

For more than 25 years the Environmental Protection Agency (EPA) has monitored the water quality at Port Phillip Bay. According to EPA the Bay has some of the world's cleanest beaches. Nevertheless, as every bay, the beaches and waterways are likely to experience serious environmental damage if not carefully managed.⁴

On a regular basis, three times a week or once a week depending on beach activities (school holidays, etc.), water samples are taken to assess the condition of beach water quality. Each sample is then tested for the presence of *Escherichia coli* whose level is a proxy for concentration of other bacteria that could be dangerous for health. Results are then published on the Internet (www.epa.vic.gov.au/BeachReport/brmap.asp). During the period from 1996 to 2000, only 56 samples above the acceptable threshold were reported for the 30 beaches under investigation. In other words, over 90 per cent of water quality samples were acceptable. Only three major incidents

were reported and all were fixed in less than seven days (blocked sewer and storm water drains). Critical periods regarding water quality are just after storms and heavy rains. The EPA does special investigations after such events and publishes the result in the newspapers. No major pollution events were reported during the 2001 season. Moreover, long-term sampling taken over 42 days shows that water quality was generally good.

Regarding *artificial* litter, the situation is at best stable but in too many cases worsening. Cigarette butts continue to be the most common item of litter, then bottles, cans and plastic item. Very recently, needles and syringes litter greatly increased. About, 3 600 syringes were manually collected in 2000 (this figure excludes those picked up mechanically with other litter). These come from storm water systems, from recreational boats or are directly dropped on the beach by people. Other significant sources of litter are the storm water system whose outlets mainly run directly onto beaches. Litter is mainly generated in shopping areas and is washed or blown into storm water drainage systems. These convey the litter, but also other pollutants, to open water bodies leading to the accumulation of non-biodegradable litter on the banks and beaches (93% of litter in Port Phillip Bay is transferred through the drainage system [Swinburne News 2000]).

Box 6.3. A Victorian success story on funding for Innovations to enhance the environment

About 93 per cent of litter in Port Phillip Bay was transferred through the drainage system. To deal with the rubbish, the Victorian Government through EcoRecycle Victoria has funded the opening of litter traps and syringe litter traps which strain litter from drain water and prevent it dirtying the system.

In 1996, the Victorian Government provided 200 000 AUD plus 100 000 AUD contributed by local government towards the development of an innovative method to trap litter in the drainage system. This led to the conception of a new system: a boom mounted into a pit inserted in the drainage pipeline to deflect floating litter to an adjacent holding chamber, from which material collected can be pumped out easily by municipal street sweeper trucks.

After a two years program and test of prototypes in the metropolitan Melbourne, the results were so successful that this system is now manufactured in Australia and overseas under license from Swinburne University.

However, as of February 2001, EcoRecycle Victoria will no longer act as a funding body for litter trap infrastructure in Victoria, following feedback from stakeholders which stressed the need for EcoRecycle to focus its activities on the source of litter rather than 'end of pipe' solutions even if they are success stories. However it is unfortunate that the two systems can not be combined.

More than ninety per cent of litter removed from beaches is *natural litter* mainly seaweed. The main reasons explaining why this is considered as litter, though not parasites, are the following: first, they are often mixed with other litter such as syringes; second, it has been reported that community preference is for seaweed-free beaches (in some cases the odour associated with decomposing seaweed can be upsetting).

Open Space

Open space is defined as land categorised in a planning scheme as a public park and recreation zone or a public conservation and resource zone (therefore it may include rivers, lakes, etc.). But open spaces can also include privately owned land. Basically, open spaces can be split into two categories given regard to location: green belts (land at the periphery including productive agricultural land) and green wedges (open spaces between the urban growth corridors).

Metropolitan Melbourne is endowed with a large amount of open space. There are numerous parks and reserves including Ramsar sites (site of international interest as defined during the conference held in Ramsar in 1971). Some of the parks are among the oldest in Victoria (e.g., Albert Park which is the third-oldest park in the region). About 30 per cent of the 11 000 sq. km corresponding to the Phillip Bay and the Westernport Catchment areas is covered with vegetation. Thus, 30 per cent of all residential zoned land is within 150 meters of open space; 81 per cent is within 500 meters of open space. Park areas are increasing either due to the creation of new parks or by extension of existing parks by the purchase of strategic open space. This land is located at the periphery of metropolitan Melbourne but mainly at the north-east and includes, also, the metropolitan trail network, the beaches of Phillip Bay and rivers such as the Yarra River. The western part, compared to the east, of the metropolitan area is less well endowed with open spaces.

Most of these areas are managed by the public body Parks Victoria (www.parkweb.vic.gov.au) on behalf of the Department of Natural Resources and Environment (DNRE) even if it includes private land.

However, some land zoned as residential has not yet been developed and could also be considered as open space which is not managed.

Box 6.4. The salinity problem in Victoria

Land degradation is a widespread and costly phenomenon in Victoria, mainly in agricultural regions but also in urban areas. Among the many reasons that led to land degradation, salinity is one of the chief explanations for Victoria "*salinity is the single greatest threat facing the environment*" (Victoria State Government, 1988). However, this is also the case for many regions in Australia explaining why the federal government has issued a National Action Plan on Salinity.

The term salinity refers to the concentration of dissolved salt in soil or water (chlorides and sulphates in most cases). The main impact of salinity is that plants have difficulties extracting the water from the soil and it can damage crops and other vegetation and plays an important role on bad water quality.

There exist two types of salinity: primary salinity (also defined as natural salinity) and secondary salinity. In the first case the production of salt is related to the natural characteristics of the country, generally flat terrain with low rainfall, high evaporation, and very limited sub-surface drainage to the sea. In the other case, salinity is the result of human activities (such as agricultural practices and land clearing) that bring salt into the root-zone where plant growth is then adversely affected (Haw *et al.*, 2000). Victoria's present salinity problems have resulted largely from human activities.

Basically, during and after rainfall, water permeates to the soil. Most of it is used by plants and the remainder contributes to raise the water table. In many cases, in Australia, the water table is saline. When it lies close to the surface the salt is brought to the soil through capillary action. Over time the soil becomes saline and this limits the growth of vegetation (vicious circle with long time effects).

Though rural areas are much concerned by salinity due to its effects on agricultural productivity, Melbourne's citizens are also increasingly concerned. Surveys conducted in 1988, 1994 and 1997 by the National Resources and Environment Department showed that salinity was an important issue for people living in Metropolitan Melbourne. In 2000, 1 790 ha of land were reported as suffering from dry land salinity.

Even if it has been pointed out, in 2001, by the Minister of Environment and Conservation that Victoria is moving in the right direction, due to long

time lag effect it is likely that salinity will continue to be a challenge for the next decades. Issues related to salinity are the replacement of indigenous plants by foreign ones, biodiversity and water quality for metropolitan Melbourne.

Up to the late eighties and early nineties, salt production, quarrying, forestry, dredge silt dumping, grazing⁵ and minor use for agriculture were allowed in most parks (see Parks Victoria 2001 for a survey). Though some of the parks are well preserved, the general situation is deteriorating. The biodiversity in flora and fauna is decreasing and most of parks are infested by weeds and pest plants, Parks Victoria (2001) give a complete overview of the situation of the most important parks in Metropolitan Melbourne. Melbourne parks are now classified as having low or medium diversity compared to other parks in Victoria whereas some exceptions exist such as the Mornington Peninsula National Park (Parks Victoria, 2001). In addition, some of the native species have already disappeared. Nevertheless, parks still host nationally endangered species and indigenous flora.

Main threats to parks are fires (infrequent in 2000), pests such as rabbits, foxes, etc. and weeds. It has been noted that indigenous species are likely to be replaced by non-native species and by weeds. Indeed, most of the parks are classified in the higher risk category for weed invasion. There has been a loss in native biodiversity (98% of bushland has been lost). In addition, while not perceived as significant in all parks in 2000 (the situation is certainly underestimated [Haw *et al.*, 2000]), salinity is likely to become the main issue in park conservation (see Box 11). Finally, increasing urban zones gradually decreases the availability of green spaces.

Drinking Water

Water flows to and through Melbourne via a closed system, for water harvested in different catchment areas such as the Yarra river (main water source for Melbourne about 71% of total supply in 2001), Thomson river, Goulburn basin, and an open system via rainfall onto the catchments and drainage into the waterways.

Since 1995, Melbourne Water is responsible for managing the catchments, harvesting and storing the water. This statutory corporation owned by the Victorian Government operates and maintains about 1 018 kilometres of distribution mains; 361.5 kilometres of aqueducts, siphons and tunnels; 55 service reservoirs at 36 local sites; 63 water

treatment plants and 23 pump stations. It supplies the water to retailers (that come under Corporations Law): City West Water, South East Water and Yarra Valley Water. Nevertheless, the Department of Natural Resources and Environment is responsible for the health of rivers and catchments and the allocation of water to all sectors of the community. It is also responsible for the legislation governing the water industry.

From the mid eighties demand for potable water grew by about 3 per cent a year, but at a lesser rate in the nineties (with large variations within the year due to seasonal effects related to temperature and rainfall Zhou *et. al.*, 2001). In 2001, the total water use is as follows: Residential (60%), commercial and industrial (28%), leakage (8%) other (4%). According to the Water Resources Strategy Committee for the Melbourne Area (2001), it is forecasted that water consumption will rise at a growth rate of 0.5 per cent (in case of increased water conservation) or 0.9 per cent (current trend). At the same time, Melbourne's water storage system was only 48.3 per cent full (June 2000) compare to 57.4 per cent the preceding year.

The three water retailers are required by their licences and the *Health (Quality of Drinking Water) Regulations 1991* to monitor drinking water quality. More than 11 000 samples were tested for faecal coliforms, and requirements were satisfied after treatment. Similarly complaints by customers on colour, taste and odour are decreasing. Water supply interruptions are infrequent and in 95 per cent of events they last less than 5 hours (Office of the Regulator General, 2001). In 1996 the price of water in Melbourne is among the lowest for a sample of 68 OECD cities (0.79 current PPPs USD/m³ compared to 0.80 for Washington, 1.16 for Tokyo, 1.28 for Luxembourg, 1.95 for Ottawa).

Industrial and Municipal Waste

Waste management is one of the major issues in Australia and for metropolitan Melbourne (funds allocated to reduction and management of waste account for 41.1 per cent of total funds allocated to main environmental issues by EPA in Victoria in 2001). Moreover the present situation may be underestimated due to the lack of reliable data and missing data for many of the municipalities.

As Victoria's population grows the volume of solid waste generation also increases, from 4.9 million tonnes in 1994 to 8.3 million tonnes in 2001. In 2000-2001 about fifty-two per cent, or 4.3 million tonnes, of waste generated in Victoria was sent to landfills. Sixty-six per cent of solid waste disposed to landfills is sourced from industry (*i.e.*, construction and demolition and commercial and industrial sectors).

There are four Regional Waste Management Groups in the Melbourne Metropolitan region: the South Eastern Regional Waste Management Group, the Western Regional Waste Management Group, the Northern Regional Waste Management Group and South West Waste. Each group issues waste management plans that must be approved by the EPA. Besides collecting waste, those groups also promote the recycling of waste through kerbside recycling (see www.ecorecycle.vic.gov.au). The Victoria State government has set a target to reduce waste deposited at landfills by 50 per cent. This outcome has not been achieved in 2001. A survey conducted in March 2001 showed that metropolitan Melbourne's citizens are supporting this policy. Nevertheless, the survey also showed a decline in concern for broad environmental issues (Taylor Nelson Sofres, 2001).

Policies and local initiatives

Actors, Relevant Acts and Regulations

Environmental issues are not specifically mentioned in the Constitution but they are closely related to many policy areas of the State (such as external affairs and Australia's international obligations, territories development, etc.). Therefore, most of the responsibilities are shared by the State and Territory Governments and Local Government. In 1992, all jurisdictions signed the Intergovernmental Agreement on the Environment, which laid down the basic parameters of operations and roles. Since 1991, at the national level, a conservation council has been established to set up ministerial co-ordination relating to environment. Indeed, main government departments dealing with environment are: the Department of Environment, Sport and Territories (known as Environment Australia, www.erin.gov.au), the Department of Primary Industries and Energy, the Department of Transport and Regional Development and the Department of Foreign Affairs and Trade. Main responsibilities in the hands of central government relate to regional issues and international co-operation (more specifically in Asia and the Pacific). Such issues cover in particular multilateral agreement on sustainable development (e.g., Kyoto Protocol, Asia Pacific Economic Co-operation, etc.), the Commonwealth transfers environmentally sound technology and know-how, and ensures that various policies do not result in adverse external effect.

Local government responsibilities vary by jurisdiction and are defined by each State and Territory. For Victoria, administrations in charge of environment are the Department of Natural Resources and Environment DNRE (Nature conservation and natural resources management) and the Environmental Protection Agency EPA (Pollution monitoring and

management). Other public agencies (which are in most cases specialised units of the DNRE), may be in charge of the management of specific resources *e.g.*, Parks Victoria for parks and open spaces, the Victoria Coastal Council, etc. In about fifty years, more than 20 major commonwealth environmental laws have been issued in the State of Victoria. In addition there are hundreds of acts of Commonwealth and State legislation dealing with environmental matters.⁶ The 1992 intergovernmental agreement on the environment defines precisely the roles, responsibilities and interests of each actor. Broadly speaking, each policy follows the same structure: listing of objectives given respect to risk assessment, land areas and public concerned and a management framework (as requested in Act 7/2001). However, they are not very explicit concerning implementation measures to meet objectives or to what extent they are compulsory. They also emphasise that each person involved in any economic process is responsible for his production and for the lifetime of his product.

In other words, producers are encouraged to reduce any pollution sources linked with the production of items for sale, the consumption of the product and any waste remaining after consumption. Moreover, recycling and reuse are to be preferred to any other production processes.

This policy guideline has a counterpart in the wastes hierarchy: waste should be managed in accordance with the following order of preference: *a)* avoidance, *b)* re-use, *c)* recycling, *d)* recovery of energy, *e)* treatment, *f)* containment, *f)* disposal.

To sustain this policy, the EPA has recently included in policy texts the *polluter pays* principle, the precautionary principle and considerations of environmental pricing. This was done conjointly with the creation of a specialist prosecution team drawn from within existing EPA resources. "*They will focus on the detection and prevention of environmental crime*" (EPA, 2001b). EPA welcomes denunciation of polluters by the community.

Moreover it is encouraged in all cases to set up partnerships and to involve citizens, entrepreneurs and public agencies in defining and implementing policies (*neighbourhood environment improvement plan*). These partnerships are based on a voluntary participation and ideally should be bottom-up approaches fed by inputs from a top-down perspective on future direction and priorities (such as the corporate plan 2001-2004 issued by EPA).

Furthermore, public agencies are required to collect data on pollution, to monitor pollution levels and/or to collect data from other bodies responsible for monitoring (*e.g.*, Melbourne Water for drinking water). The EPA, in order to improve transparency and community involvement, provides

detailed analysis on each pollution source and recommendations for environment improvements (through notes and/or software, see www.epa.vic.gov.au).

In 2001, though information to the public on environmental issues is of rather good quality and easily accessible, data collection is insufficient. Despite available information on air and water quality, waste collection, treatment and recycling is not clearly evaluated. Some municipalities (that are supposed to collect this data) did not provide any figures in 2000. Trade-offs between environment and economic growth are in most cases biased toward economic efficiency rather than social and environmental performance. In addition, citizens' responses to these issues are inconsistent with needs and there is a lack of follow up. For example, why did 95 per cent of volunteers (in 2000) for cleaning the beaches and monitoring water quality stop their activity after one year? And participation in clean-up campaigns and anti-litter schemes is declining (only 16% of investigated people in Melbourne claim to take part in a clean-up campaign [Taylor Nelson Sofres, 2001]). To sum-up, environmental values often appear to be regarded as incidental to economic development rather as fundamental for metropolitan sustainable growth.

EPA and DNRE 2001-2004 Initiatives for Environmental Improvement

EPA

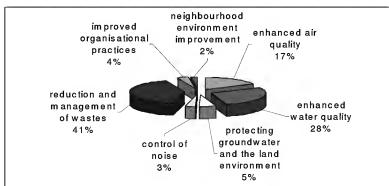
To deal with the urban air quality issue, the Commonwealth government is committed to the phased introduction of new emission standards on all vehicles. This scheme is based on the current United Nations Economic Commission for Europe Regulations standards. In addition, Victoria has adopted national standards for air quality, to be achieved by 2008. Previously American standards were applied. European emission regulations for new light duty vehicles were specified in the European Directive, 70/220/EEC, 93/59/EC and 98/69/EC. In addition to these standards, more stringent fuel quality rules were introduced: minimum diesel cetane, reduced diesel sulphur.

Regarding water quality, as pointed by EPA (EPA 2001b), if Victoria is to continue to demonstrate leadership, the task of protecting waterways and coastal waters requires broad ownership and involvement of the Victorian community. The first steps identified in the corporate plan are: collection of information, establishing attainment targets, building knowledge and sustaining opportunities for partnerships.

Similar to the water quality issue, the land and groundwater management requires the collection of information on the current state of land and main sources of pollution. And partnerships with the Department of Infrastructure are required to supervise sustainable urbanisation (regarding in particular: waste generation/disposal and sewerage systems).

Last, the EPA aims at reducing waste. In this line of work, the EPA is supporting projects that consider the impact of goods and services across their entire life cycle and support product stewardship. In addition, the Agency is trying to stop and penalise illegal dumping and markets business sustainability to address the triple bottom line performance by industry.

Figure 6.1. EPA resources allocation, 2001-2002



Source: EPA corporate plan 2001-2004.

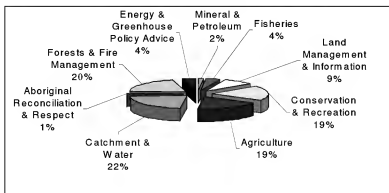
DNRE

Channelled through its various agencies, the Department for National Resources and Environment seeks to achieve various objectives regarding environment and resources management. Given its area of action, ten objectives guide the organisation towards its vision for the future:

- Influence the sustainable and competitive development of Victoria's land and resources industries.
- Facilitate the delivery of reliable and affordable energy and water services for Victoria.
- Utilise Victoria's research capacity and knowledge management to support sustainable development.

- Produce healthy rivers and catchments.
- Provide demonstrable stewardship of public land estates.
- Deliver improvement in biodiversity.
- Lead and facilitate implementation of the government's approach to reducing greenhouse gas emissions.
- Improve aboriginal well being.
- Increase access to information and community engagement in natural resources and environment decision making.
- Support the achievement of departmental objectives.

Figure 6.2. DNRE resources allocation, 2001-2002



Source: NRE corporate plan 2001-2004.

For each of these objectives, the DNRE defines a set of strategies based on the following principles.⁷ Definition if necessary of a legal framework; enhancement of the use of existing capacities, resources and promotion of knowledge. In most cases it seeks to assist industries and citizens to use renewable resources through partnerships and information delivery.

The Port of Melbourne and Environmental Issues

As an island nation, Australian ports are pre-eminent for trade, transport, fishing industry and also for recreation and leisure. But the port industry also constitutes a unique business complex that may have potential environmental impacts simultaneously on coastal land, marine and atmospheric environments. It is the great range and diversity of traffic volume, industry base, local conditions that poses a challenge to the port sector in producing a response to sustainable development and environmental protection, especially for the particular marine ecosystem of the Port Phillip Bay. The 1 950 square kilometre Bay is a valuable asset and natural resource for metropolitan Melbourne. Due to its narrow entrance, and to shallow sandbanks surrounding it, the water of the Bay is quite isolated from the ocean. It is a semi-enclosed bay; exchange of water, and hence of dissolved or suspended material, with the ocean is very slow (1 year average residence time, Murray *et al.*, 2001). This makes the ecosystem in the Bay very dependent on management of infrastructure such as the port. Another related important issue is biological invasions due to ballast water dumping. The port of Melbourne is located within a sensitive estuarine environment. Moreover, with the residential development close to the port and the proximity of Melbourne's Central Business District, newer issues are emerging, for example visual amenity, noise and dust.

The Melbourne port is already the largest container and one of the largest general cargo ports in Australia. Port facilities extend from the lower reaches of the Yarra River, downstream of the Bolte Bridge, to the mouth of the river in Port Phillip Bay. To deal with environmental issues, the Melbourne Port Corporation (MPC) which organises and manages the port is also in charge of environmental matters along with port operations. Besides, the Victorian Channels Authority (VCA) manages the port water. Other agencies and organisation and local authorities may also play an important role (through key partnerships and/or consulting *e.g.*, with Parks Victoria for open space matters). The two main documents shaping the environmental policies are the Port of Melbourne Land Use Plan (MPC, 2001a) and the Whole of Port Environmental Management Plan (MPC, 2001b). The objectives of the MPC are to ensure the efficient operation of the port, avoiding impact on environment, and compliance with regulations and legislation. Key strategies are the Storm Water Management Plan to ensure water quality, the Port Monitoring Program to promote best practices, and the Waste Management Strategy. In addition, the MPC undertakes noise monitoring and provides noise attenuation at sensitive Port interface areas. Last, regarding open spaces, the MPC works closely with local authorities and Parks Victoria to improve open space management.

Port operators and services providers are obliged to comply with the requirements of numerous international, national, state and local conventions, legislation, policies and town planning requirements (see MPC, 2001b for a sample). To help service providers and users to comply efficiently with these requirements, the MPC provides various guides summarising best practices. In addition, after a risk assessment and a prioritisation of environmental management requirements (from low to high priorities), the MPC provides a framework for the implementation of specific strategies and assigns responsibilities (see MPC, 2001b for details). To monitor the results and to help people involved in environmental management, the MPC has implemented a monitoring program for the whole port and for some specific sites that require careful management. And the MPC offers information facilities and training to all stakeholders and tenants. While there are no accurate data on the Port, the MPC, the EPA and the DNRE report that the port environment is of rather good quality. It still hosts some bird habitats of regional/state/local ecological significance and a remnant of the original salt marsh area. Nevertheless, there are potential risks regarding dust emissions, oil spills, and noise emissions that explain the importance of the environmental concerns expressed by the MPC. The overall strategy implemented seems to be adequate to achieve sustainable growth of the port's activity.

Urban Planning Policies and Environmental Concern

The consideration of environmental factors has been a strategic land use decision in Melbourne for over thirty years. First attempts were embodied in the green wedge strategic plan for Melbourne late in the sixties. This line of work was maintained in the 1987 metropolitan strategy that aimed at preserving the green wedges and promoting growth corridors between the green wedges. The various plans were mainly based on environmental protection rather than promoting initiatives that contribute to enhancing the environment.

One of the main characteristics of metropolitan Melbourne is that urban boundaries have not been clearly defined. Urban land has continued to extend with the construction of more detached housing on a range of relatively large lot sizes. This has resulted in lower availability of open countryside, including agricultural land, areas of high landscape quality and conservation areas, higher greenhouse gas emissions (because of increasing car use and energy consumption) and overall environmental depreciation.

Among the many reasons that may explain the situation in 2001, urban planning is one of the most important. Urban policies in the early nineties were marked with contradiction. On the one hand the government continued

urban consolidation while on the other it removed policies aimed at reducing urban sprawl (e.g., the requirement of a minimum density of lots per hectare). Moreover, while this increasing urbanisation led to more frequent use of cars, there was lack of integrated transport policies. In addition, rather than developing a coherent public transport service, large-scale freeways were, and are still, being promoted in order to reduce congestion. This type of policy has been evaluated as inefficient by the OECD (OECD, 1995) and is considered damaging in terms of environment. Expansion at the city's fringe needs to be curtailed in the east, south and northeast because of the need to protect the open spaces.

The proposed 2002 Metropolitan Strategy departs in many ways from past practices and seeks to correct unsustainable patterns resulting from previous policies. The monocentric plan of the city has also been identified as not being conducive to reducing travel demand and a "networked city" approach is being developed via the Strategy. The Strategy emphasises planning for land use and development, transport and other major infrastructures (such as public infrastructures) to support the sustainable development of metropolitan Melbourne. At the same time, this thirty years' plan aims at safeguarding environmental quality as a competitive advantage to sustain and foster economic growth in the Melbourne Region.

To achieve these goals, the Strategy encompasses actions relating to land use, transport infrastructures and choices, housing and access to services. Relating to land use, a major innovation is the *definition of an urban growth boundary* (UGB). Land within the UGB will be available for urban uses (including open space), whereas land outside the UGB will be devoted to rural uses. Setting clearly the geographical limits of urban development will protect non-urban areas and green spaces. In addition to limiting urban sprawl, the Strategy specifies a minimum overall average housing density (at least 15 households per hectare). Such containment policies are now used in one fourth of US metropolitan areas and are very similar to the British case. In Britain, greenbelts (huge swathes of undeveloped land surrounding cities) were established to contain urban expansion. However, Monk and Whitehead (1999) showed that urban containment boundaries pushed up prices, Cheshire and Sheppard (1995) found that the percentage of open space located close to a property has a positive effect on price of housing. However, UGB have some adverse effects. Over time, land within the UGB will become fully urbanised and land values may rise disproportionately (Nelson, 1986). Increasing prices could constrain housing for key workers with low salaries in a high cost city. In addition, rural land close to the boundary, suffering from urban disamenities and suffering from restrictions on land development, may lose its value. To sum up, in the British case UGB were successful at managing

urban sprawl and increasing urban density, but was associated with adverse effects such as increasing price of housing sometimes compensated by builders providing lower quality. To reduce these effects, Dawkins and Nelson (2002) propose that urban containment boundaries should be periodically re-evaluated and extended. The negative impact of an UGB needs to be weighed against the negative impact of growth without one.

To reduce greenhouse gas emissions, particularly by decreasing car use, the Strategy will co-ordinate efforts in different policy areas. First, departing from previous urban planning, it will promote a *multi-nodal approach*, favouring the development of urban “activity centres” mixing shops, recreational centres and offices (*mixed-use community centre*) situated on public transport interchanges. Second, it seeks to enhance public transport coverage, transport choices, capacity⁸ and pedestrian activity. Despite the policy of improving modal split to achieve 20 per cent public transport ridership by 2020, the task of reducing the use of the private car in Melbourne will be difficult as public transport services in outer suburbs are not of high quality.

The initiatives and policies will be implemented sequentially in a time framework over 5 years. The schedule of measures is being decided in partnerships with the Department of Infrastructure, Local Government and related Public Agencies such as the EPA. Adopting a long-term view, the Metro Strategy gives priority to monitoring and to the development of planning principles that take account of environmental sustainability.

Sustainable Transport: An Integrative Approach

Melbourne is at a crossroad regarding the issue of the environmental impact of transport. The main strand of this issue is the development of the Port that will lead to increased road and rail freight. Besides, with continuing urban sprawl, public transport offer needs major improvement. In addition, the strategic audit of Victorian industry (2001) forecasts a considerable increase in e-commerce that will lead to more in-town traffic for delivery. The combination of these three strands implies potential increases in greenhouse gas emissions and more noise pollution.

Transport and the Port of Melbourne

Ports are of great importance for island-countries, Melbourne is a gateway in the supply chain of Australia but also a window on the world for a growing trade-economy. Part of a key economic triangle (Melbourne, Sydney, and Adelaide), a total of 45.5 million revenue tonnes passed through the port of Melbourne in 2000-2001. The port's overall trade

continues to grow at an average yearly rate of about 6 per cent and is essential for the Australian economy. In order to manage the increasing flow of merchandise from/towards the rest of the country, inter-modal integration and development of access roads and railroads has to be pursued. The Port has excellent linkage to the road transport networks and adequate current capacity, but a number of local roads require improvement. First steps toward improvement were achieved by Citylink, though this led to more congestion on some alternative routes including local residential roads (MPC, 2001b) contributing to lowering air quality and increasing noise pollution. Regarding train connections, the network is rather dense and well connected to intra-state network. Nevertheless, present capacity will be insufficient to absorb the growth in flows. But, as pointed out by the Transport Distribution and Logistic Sector in Victoria (2001), rail is a promising alternative to road and is about seven times less polluting. However, even increased rail capacity will not be able to absorb the projected increase in freight. Any Metropolitan Strategy must consider clear and specific measures to deal with freight. (See Chapter 4 for recommendations about Port development)

Metropolitan Melbourne and Public Transport

Metropolitan Melbourne is endowed with various types of public transport infrastructure, buses, trams, taxis and trains. Since 1998, all operators are private. Operators of buses, trains and trams entered into a legally binding franchise agreement or contract with the government for a period of 10 to 15 years. The Director of Public Transport in the Department of Infrastructure (DOI) manages agreements and contracts. Each provider is required to fulfil defined standards in terms of pricing, punctuality, reliability and customer satisfaction. On a regular basis the DOI monitors the results and publish them in the Track Record, a publication which is available at their web site (www.DOI.vic.gov.au). Less than nine per cent of motorised trip are made by public transport. The DOI, in its Metropolitan Strategy foresees an increase in car use and is seeking to limit unrestrained growth. The main environmental issues are, as for other type of travel, noise and air pollution. To deal with this matter, the Strategy relies on increasing transport choices and extending the network by re-opening lines and creating new ones for trains and trams in order to enhance connections between work areas, shopping areas and living areas that should lower private car use for short trips. There is also a plan to improve bus services in middle and outer suburbs. Some price incentives for public transport are offered. Also, the existing cycling network is being continuously upgraded in order to promote alternative transport, and rail/bus and taxi interchanges are being upgraded. Meeting these objectives will require a major collaborative effort between the government and the franchisees. To sustain

this process a four million Australian dollars have been allocated for public transport planning to develop an integrated and balanced transport system. These types of policies have proven in the past their effectiveness and are a common feature of urban transport policy packages in most OECD cities (see *e.g.*, Mackett, 2001). To be fully efficient, information on the consequences of car use is being provided to Melbourne's citizens through the various environmental agencies such as the EPA (see Tertoolen, *et al.*, 1998). This public information is achieving a positive, but modest, impact.

ICT and Travel Operations

The information and Communication Technology (ICT) revolution can affect travel. The increased use of Internet to do business between businesses (B2B) or with consumers (B2C) is a global trend in western economies. Affordable computers and communication devices associated with the increasing availability of Internet access explain in part why the e-commerce sector is among the fastest growing sector in OECD countries. More and more, for many people, the home or the office has become a viable site to purchase goods and services. Currently, the major sectors concerned are books, software, music, travel, clothing, etc., with a peak at the Christmas holiday period. But it increasingly concerns services such as banking, making travel arrangements and dealing with governmental agencies. Consequently, e-commerce has become a catalyst for fundamental change in the way the Transport, Distribution and Logistic sector works, but it may also affect person trips. Two opposite trends characterise the evolution in travel patterns in the one hand there are more deliveries in town, on the other hand it decreases commuting for shopping (but saved time may be allocated to other travel *e.g.*, recreational). The resulting overall trend is therefore unclear, as it results from the combination of two opposite trends. Indeed, most trips are shopping trips. In any case, as noted by Golob and Regan (2001) the demand for freight is affected by e-commerce because it may lead to smaller and more frequent shipments and significant freight flows from points where neither shipper nor recipient are present. Package pick-up and delivery services will be expanded and specialised carriers will emerge to support niche markets. Even if e-commerce reduces congestion at shopping malls and on commercial streets, it may increase overall traffic and consequently greenhouse gas emission and noise pollution.

To conclude, defining and effectively implementing sustainable strategies for urban travel requires reconciling the numerous and divergent interests of many actors. These include national, regional and local levels of governments, public transport providers, citizens, land planning authorities

and environmental agencies among many others. It should be kept in mind that unsustainable urban travel patterns lead to serious air and noise pollution problems. Policy makers have to avoid dealing with transport, land use and environment in isolation. Each sector is closely related. In 2002, an OECD report on implementing sustainable urban travel policies dealt with these problems and suggested national policy responses to urban travel problems (*Implementing Sustainable Urban Travel Policies*, OECD 2002).

Sustainable Housing Initiatives

The construction industry, along with the building material industries, is one of the largest exploiters of natural resources. Their activities cause irreversible transformations of the natural environment and add to the accumulation of pollutants. Moreover the construction industry contributes to the loss of soil, agricultural land and open spaces. Consequently housing and its sustainability is an issue for metropolitan Melbourne as for every city.

To incorporate sustainability concepts into urban planning, the design and management of housing should take into account the economic, social, and environmental issues at each stage. In other words housing should also be sustainable. There are many examples of sustainable housing in different countries around the world that have incorporated the principles of health, energy efficiency, efficient use of natural resources, affordability, and environmental responsibility. And there is a variety of different ways of designing and building a sustainable dwelling which is adapted to specific climates and topography, etc. This involves the various components or systems that require specific attention such as: construction materials, insulation, windows, appliances, source of energy, ventilation, water systems and waste management, etc. Indeed, heating, ventilation and lighting of buildings consume most of a city's primary energy. While the ecological housing sustainability is quantitatively analysed with respect to the energy and mass flows in time and space within a life cycle assessment, it also includes economic sustainability and social and cultural sustainability.

To deal with these concepts, the various agencies involved in sustainable housing design in Melbourne are focussing their efforts in three main directions: water management, use of renewable energy and energy saving through implementation of smart energy housing. Energy smart builders provide these dwellings. They are committed to providing home buyers with a minimum 4-5 star rating house design. A five star house will be up to 10 Celsius degrees cooler on summer day and 6 Celsius degrees warmer on winter day than other homes, air conditioning can sometimes be avoided thanks the use of new building materials and improvement in

insulation. The promotion of such advanced building technology is carried out with the aim of improving environmental quality and performance of these buildings. Whereas incentives exist for the future owner (grants for solar hot water and power), Energy Victoria mainly emphasises the fact that it leads to important cost cuts on energy bills. In addition, the Building Commission has developed a sustainability policy through the implementation of local building regulations introducing standards and encouraging design which addresses energy efficiency.

Regarding wastewater and water saving, Melbourne Water continues to promote water conservation through efficient appliances that are rated by the Water Services Association of Australia through the National Appliance Labelling Scheme (e.g., dual flush toilets and water efficient shower roses). In addition key strategies are being developed to change consumer attitudes to water and to change behaviour of users (see Melbourne Water, 2001b for a complete list of strategies). Besides restrictions, leakage monitoring, and repression of illegal connections, several strategies directly influence housing sustainability. The main methods are promotion and education to reduce demand thanks to the publication of water conservation literature that provides water saving suggestions and water audit kits to identify areas of potential saving for customers around the house and the garden (similar programs exist for industrial water users).

Cultural and community sustainability is also an important issue. An interesting initiative is the Urban Village Project. Urban Villages are an achievable way of improving the quality of urban life through building better neighbourhoods. Local urban centres with a mix of workplaces, housing, shops, accessible public transport where energy efficiency, green transport and open spaces of high quality are promoted. In addition, cultural heritage is restored. This project started in 1995 when Energy Victoria, the Environment Protection Authority, the Department of Infrastructure and various local governments collaborated in eight case studies to explore the feasibility of applying the Urban Village concept. To sustain this process a summary report has been published (*Encouraging Sustainable Urban Form: Summary Report*) and can be ordered from Energy Victoria.

Intelligent Building and the Promotion of Sustainable Housing

New buildings should be gradually and continuously upgraded in a non-disruptive way, thereby reducing demand for new construction on greenfield sites.

To foster the implementation of this new generation of building, metropolitan areas such as Melbourne should consider putting in place

several committee and co-ordinated centres for example: an *intelligent laboratory* whose objectives are educational: 1) collecting and developing usable intelligent technologies for housing, 2) training of students and researchers, 3) a working group of industrial partners and academics, 4) training on building management, program marketing and technical support services. And, an *intelligent centre* that feature intelligent technologies and environmental issues (this could be included in a broader science museum). Entertainment facilities should be built with the most advanced technologies. This could be a channel through which queries can be voiced and experience shared, bringing public interest and useful guidelines. To that purpose such a centre should provide indications on financial savings and comprehensible information on different alternatives on building systems. (Kua and Lee, 2002)

NOTES

1. Noting that figures regarding pollution levels (air, water,...) and contribution to pollution may greatly vary from one study to another (even nationally). Moreover, collection of data is pointed out as insufficient in all fields relating to environment [e.g. in OECD (1998)].
2. The period under investigation is 1994-1997, due to data availability.
3. The period under investigation is 1991-1996, due to data availability.
4. Noting that Port Phillip Bay has sediments providing efficient denitrification that naturally improve water quality [Murray *et al.* (2001)].
5. Grazing is still permitted in some parks, for example in Point Cook coastal park.
6. However, compared to other OECD countries, and certainly because of Australia's vast size and low population density, both public concern and governments response came latter [OECD (1998)].
7. The details of each strategies may be found in NRE Corporate Plan 2001-2004.
8. Noting that schemes developed in the strategy do not replace other initiatives aimed at increasing public transport use, e.g. Government payments to metropolitan operator for increasing the number of passengers using their services. Such payments apply when an operator exceeds the level of patronage at the commencement of franchise for metropolitan trains by 10 per cent.

Chapter 7
Governance and Public Finance in Metropolitan Melbourne

Governance

The Context

Australia's current system of government was established in 1901 when the Australian Constitution came into force, laying the foundation for the new nation-state as a Commonwealth with a federal system of government centred on a democratically-elected parliament. At both the federal and state levels there are legislative, executive and judicial arms of government and a separation of power between the three arms. The political party supported by a majority of seats in the Legislative Assembly forms the Cabinet which comprises the Premier and other Ministers drawn from both Houses of Parliament.

In the post World War Two decades, Australian Commonwealth governments have been led by either the Liberal Party or the Labour Party. The current Prime Minister John Howard (Liberal) has been in power since March 1996 in a coalition government including the Liberal Party and the National Party. In the State of Victoria, the Kennett (Liberal) Government was in power from 1992 to 1998. In 1998 the current Bracks (Labour) government was elected.

The Constitution allocates specific legislative powers to the Commonwealth Parliament which is responsible for defence, foreign relations, trade and many domestic issues of national concern.

The governments of the six States and two Territories are based on parliamentary systems subject to both the Australian constitution and their respective constitutions. The legislative powers of the state parliaments cover all areas except those where the Commonwealth is assigned responsibility under the constitution. The result is that states have primary responsibility in some areas such as agriculture, education, health services, law enforcement and transport. In other areas such as industrial relations, power is shared or split. Federal laws duly enacted take precedence over any state laws that are inconsistent in substance. The Commonwealth has used its power to provide financial assistance to the states as a means to extend its legislative competence in such areas as education and transport.

There are over 900 local government bodies at the city, town and municipal levels. Local government institutions are established via state and territory legislation and tend to have responsibilities for such functions as urban planning, local infrastructure, building codes, public health and sports facilities.

Federal Government and Urban Areas

Many of the most significant territorial impacts of the Commonwealth Government result from policies and programmes that address national, rather than explicitly urban issues. This embraces policies on immigration, social welfare, management of the macro-economy, the financing of education, health and physical infrastructure, urban and regional development programmes, and trade policies. For example:

- The Federal Government's immigration policies exert a powerful influence on Australian cities. Most immigrants settle in a state capital. The number of new arrivals largely determines the rate of growth of the metropolitan centres and affects the demand for housing and services.
- National economic management also has a fundamental impact on cities. Over recent decades the Australian Government has deregulated many parts of the economy through tariff reductions, deregulation of the finance sector and integration with world financial markets. Reductions in industry protection have profoundly affected employment in a number of metropolitan and non-metropolitan regions while financial deregulation contributed to interest rate volatility.
- The Federal Government is the most significant tier of government for the provision of income support and services for persons in need. The Federal Government offers a number of different types of payments to persons without income or on low incomes such as the unemployed, the disabled and the aged. In addition it provides full or partial support for services such as general health care (Medicare) childcare, maternity leave, public housing and pharmaceuticals as well as financial assistance to low income households renting privately. Most forms of income support and some services are tightly targeted to those on low to moderate income.
- The Federal Government provides financial support for education and higher order health services while funding either fully or in part some infrastructure. It also supplements state funding of public

hospitals. The Federal Government has certain discrete responsibilities in terms of physical infrastructure with respect to telecommunications, national highways, ports and railways. Government owned enterprises have been commissioned to conduct business in many of these areas.

Commonwealth interest and involvement in urban policies per se has varied over the years. Between 1990 and 1995, under the direction of Deputy Prime Minister Brian Howe (Labour Party) the Federal Government formulated a number of programmes to encourage the reform of land use planning and zoning, embarked on a series of demonstration projects of “best practice” in urban development and reviewed housing and urban development policy issues. It was also active in addressing issues arising out of locational disadvantage and urban development.

State Governments and Urban Areas

Australia's six State and two Territory Governments are the primary suppliers of many urban services and the principal agents for land use planning at the metropolitan level. Services provided by this tier of government include primary and secondary education, public hospitals, child health services, prisons, public transport, police and emergency services. State governments are involved directly in most areas of major urban infrastructure, including the main road network, metropolitan rail systems, power and water supply and sewage treatment. Federal financial support to the states for the provision of services is adjusted according to the level of need. The Commonwealth Grants Commission makes recommendations to the Federal Government on the level of funding needed to ensure that smaller states are able to provide services such as schools and hospitals that are equal to those found in the more populous jurisdictions.

Increasingly, States and Territories have moved to commercialise their statutory authorities or privatise them. For example, in recent decades, states have introduced private consortiums to build tollways in place of freeways, and in Victoria power generation capacity was sold to the private sector. All State and Territory Governments run public housing authorities to supply affordable housing to low income households. State Housing Authorities (SHAs) are funded through a mix of Federal and State Government monies. Federal support is provided through the Commonwealth-State Housing Agreement (CSHA) which was first introduced in 1945. The States and Territories manage the housing stock, maintain the dwellings, allocate accommodation and where appropriate provide financial assistance for home purchase. The demand for public housing has outstripped supply in all states. Access to public housing is limited to persons on low incomes and in

most states a rent ceiling has been set at 25 per cent of income. Economic restructuring has resulted in a growing proportion of public housing allocations going to persons on income support rather than on wages.

Strategic planning for urban development is undertaken by the State or Territory. State planning authorities are largely responsible for the preparation of metropolitan plans which are then implemented through legislation, consultation with service providers and capital works programmes. State Governments increasingly are developing new planning strategies through major or semi-independent planning enquiries. Increasingly, cross-sectoral and cross-governmental approaches are being developed to address urban and related problems. These strategies involve co-operation between employment development agencies, planning authorities, service providers and other pivotal agencies from all tiers of government. The Australian contribution to an OECD Project on Distressed Urban Areas (1997) advised that the introduction of broader frameworks could offer considerable benefits in addressing the root causes of urban and regional problems.

Local Governments and Urban Areas

The role and functions of local governments in urban development vary considerably across Australia. The largest authority, the City of Brisbane, serves a population in excess of 800 000 and provides public transport and other services normally associated with State Governments. By contrast, some local governments in urban areas serve fewer than 1 000 residents. Many provide only basic services to their populations. In general local governments are funded from three sources:

- local property taxes (rates) account for roughly 50 per cent of all income;
- grants from the State and Federal Governments (both tied and untied funds) provide a further 15 per cent; and,
- fines, charges and sundry income furnish the remainder (AURDR 1994).

Federal Government financial assistance to local government is adjusted to provide greater assistance to areas of socio-economic or other disadvantage.

Local government elections are held in Victoria annually in March. Voting is compulsory and non-compliance is sanctioned by a fine. Each of the 78 Councils conducts triennial elections. Elections are conducted by the

Victorian Electoral Commission, the Australian Electoral Commission or by the Council. The Local Government Division of the Victorian Government provides advice, co-ordinates publication of election results and investigates allegations of breaches of the Local Government Act 1989.

Councillors, the elected representatives of the community in all 78 Victorian Councils within Victoria, are elected for a term of three years. Mayors and Shire Presidents are appointed annually, except for the Melbourne City Council where the Lord Mayor is elected by the electorate at large for the term of the Council.

Local governments in all major cities provide physical and human services. They are charged with the maintenance of the local road network, the removal of household refuse and the development and maintenance of parks and other recreational facilities. In the social sphere they provide libraries, services for the aged, care for young children and, on occasion, localised public transport. Increasingly local governments are expected to provide social services and facilities, but their performance in this area varies considerably. This reflects both the attitudes of individual councils, their size and their partial reliance on local property taxes. Councils in poor urban areas have limited resources to meet the needs of their residents.

Local governments are involved in local development control and planning. They are required by the statutory planning framework to develop local plans that are consistent with metropolitan plans and to assess the suitability of applications for land development and all new construction.

The New Planning Context in Victoria

The preparation of the Metropolitan Strategy for Melbourne coincides with a renewal of the Victorian governance context. Governance arrangements in Victoria allow for strategic decisions covering the entire urban region to be made rapidly. However, the strong position of the State government has not been conducive to the emergence of a strong collective identity among the group of municipalities which compose metropolitan Melbourne, nor has the governance context of recent decades facilitated the emergence of a truly comprehensive strategy for the Melbourne region.

In a globalising world, where initiatives are increasingly spawned at the local level, sensitive planning, social inclusion, and endogenous economic development require input from local stakeholders. The lack of a permanent or regular metropolitan “standing conference” or “forum” affording an ongoing exchange of views on metropolitan issues constitutes a distinct disadvantage for Melbourne. Traditional governance arrangements have encouraged networking centred on vertical relations between individual

municipalities and the State Government to the detriment of horizontal networking among municipalities with shared interests in co-operation with the State authorities. Plans to remedy this situation such as the institution of an annual forum for Council Mayors have, fortunately, now been put forward as part of the new planning context in Victoria and an initiative has recently been taken to constitute "focus groups" of municipalities.

The Metropolitan Strategy for Melbourne has to be viewed in the context of the broader reforms being introduced by the Bracks Labour Government elected in October 1999. The new State Planning Agenda, launched in December 1999, aims at "establishing a sensible balance between economic development, social growth and cohesion and the sustainability of Victoria's environment".

This Agenda, importantly, aims to establish a *new partnership* between State Government and Local Government on planning and other issues. In parallel, the Metropolitan Strategy is highlighting and enhancing the territorial aspects of State policies by recognising the need to restructure spatially the metropolitan region in order to position Victoria even more strongly in the global economy and improve economic and social sustainability. The new planning context involves:

- modernising the local government and the planning system;
- improving the relationship between the State Government and Local Government by upgrading the role and responsibilities of all local authorities across the State and in the metropolitan region through, in particular, the preparation of Municipal Strategic Statements;
- developing a Metropolitan Strategy aimed to give the region of Melbourne the long-term territorial strategy which it needs.

In recent years, the State Government has taken a number of steps to modernise local government and update the planning system by updating the Local Government Act; introducing a new residential planning regulations (ResCode); a Best Value Victoria Policy; and Performance Management.

Update of Local Government Act

The Local Government Act 1989 is the main legislative instrument for Victoria's 78 councils. It defines the purposes and functions of local government as well as providing the legislative framework for the establishment and administration of councils. Since 1989 when the current Local Government Act was passed, it has been progressively amended to correct anomalies and to reflect the policies of the government of the day.

As a result there have been hundreds of individual amendments to the 1989 Act in over 40 separate Acts of Parliament. It is considered important that the Act be kept up to date to reflect contemporary thinking about the role of local government, its accountability to its constituents, and its relationship with the state.

A process to update the Act was formally announced on 15 November 2000. To support a healthy and effective local government sector, new legislation is being prepared for presentation to Parliament that is logically structured, realistically brief and in clear language; corrects anomalies in the existing 1989 Act; and reflects the Governments partnership approach to local government.

Public submissions were invited in regard to the update and a Consultation Paper was prepared as a basis for the consultation. Major issues identified by a Local Government Regulations Working Party were:

- That local government should be able to operate autonomously and that regulations should be enabling rather than prescriptive.
- That the major areas of concern and in need of improvement in the regulations are those dealing with financial management and annual reporting requirements.
- The numbering of regulations needs to be revised due to amendments over the years.
- The local government sector should not be faced with more onerous obligations than State or Commonwealth governments.

Best Value Victoria Policy

In recent years the State of Victoria has corporatised many public services. In an effort to ensure transparency and accountability, a set of Best Value Principles was introduced to ensure that Councils can determine the most effective means of providing a service in line with to the Community Performance Management criteria.

A review of the performance indicators collected from councils is currently underway. Each year Victoria's councils provide information about their municipality and results achieved during that year. This information is used to calculate performance indicators – measures which determine trend analysis and enable comparisons with other “like councils”.

The performance indicators are segmented into two groups

- Annual Plan Indicators: higher level, audited, corporate performance measures that cover the rating levels, overall financial performance, community satisfaction, general operating efficiency and capital expenditure effectiveness, and
- Comparative indicators: service-specific performance measures of unit costs and service quality covering major services provided by councils such as waste management, town planning, roads, cleaning, parks, family services, aged care, etc., as well as customer service.

Each group is then split into categories from which individual performance indicators can be selected and monitored.

Improving Co-operation Between State and Local Governments

Roles and Responsibilities of Local Governments

From a constitutional standpoint, local government in Australia is the weakest tier of government: it relies on central-state funding and many councils have limited resources to expend upon areas not formerly identified as their preserve. However, as in other Western societies, local government is becoming increasingly entrepreneurial in its outlook.

Australian local authorities are “creatures” of State Government legislation rather than of the Federal Government (just as Canadian municipalities are “creatures” of the Provinces). Australian local governments are, therefore, in a weaker position than the local governments of some other OECD countries such as the Nordic countries, Germany and Switzerland.

Under the Kennett Government (1992-1998) restructuring of Victorian councils through amalgamations reduced the number of municipalities in Victoria from 210 to 78. For historical reasons and because of the demographic and economic weight of the urban region of Melbourne compared to that of the State of Victoria as a whole, the State Government has, traditionally, exercised authority over the urban region, except in areas where Federal policy prevails. This context has precluded the creation of a Metropolitan Council or Government for the urban region and has, until recently, meant that both the functional and administrative territory of metropolitan Melbourne has been governed from the State level in a rather “top down” manner with a weaker role for most local authorities, except the City of Melbourne. In many other OECD countries, a key governance objective has been to overcome fragmentation of power within in metropolitan areas by the creation of a higher order metropolitan authority. There has been much debate as to which spatial territory is the most

appropriate for the delivery of services and the development of a planning strategy – i.e., the metropolitan level or the wider regional level. The report *Metropolitan Government Reform in Europe: Current Trends and Challenges* (Lefevre, 2002) concludes that the regional level seems to be winning the battle:

“The last decade showed an empowerment of the regional level in a large number of countries, including those which had always been considered reluctant towards the regional idea. The regional level has always been significant as a government tier in Federal States such as Germany, but in recent years it has gained importance in other countries as well, in so called Regional States such as Italy or Spain with a speeding up of federalist reforms, but also in Unitary States such as France or the United Kingdom.”

Whatever the level preferred, be it metropolitan or regional/state level, there is no doubt that local authorities everywhere are being called on to take a more active role in governance. The Municipal Association of Victoria (MAV) brings together the municipalities in Victoria and facilitates an exchange of views between all the municipalities of Victoria and the State Government. The Association was incorporated by Act of Parliament in 1907 and represents local government on a range of committees, panels and working groups and presents submissions to State government reviews and enquiries and liaises with key state agencies and staff and key Ministers. It provides a range of information services and establishes working groups of interested local government members to assist in responding to issues. MAV looks after the joint interests of councils and acts as a central lobby group with other spheres of government. Its role is to provide leadership to councils by supporting them to achieve the highest levels of respect and recognition through improved performances. Another local government body is the Victorian Local Governance Association (VLGA). Until recently, the roles of MAV and VLGA have, however, been more of a consultative than a proactive nature.

The Capital City of Melbourne

In planning for the metropolitan region of Melbourne, the State Government has to take into account the special role of the City of Melbourne (CBD) and, more generally, the increasing pressure by local governments throughout Australia and in Victoria to be considered as full partners.

Prior to the development of the Metropolitan Strategy, the Melbourne City Council, in co-operation with MAV and VLGA, was extremely active in analysing governance issues and in making innovative proposals for

improving inter-governmental relations and co-operation. In September 1998, it published a Preliminary Review of Governance Issues. The analysis of the special role and particular governance issues of the Capital City of Victoria contained in the report is relevant for the core cities of most OECD metropolitan areas.

The City of Melbourne provides headquarters for public administration and for business and commerce for the professions and for technological innovation. It is the state's major centre for retailing, tourism, sport and recreation, entertainment, restaurants, cultural activities, built heritage, education, employment and major events. It is also a focus of residential development. The MAV/VLGA report notes that these special features have a state and metropolitan significance, in addition to their local significance. Where state or regional interests exist, particularly where they have effects beyond the boundaries of the city, the State Government wishes its voice to be heard and may impose its policies and take over some administrative or funding responsibilities. These issues need to be managed carefully and co-operatively. They present a constant potential for conflict between the state or regional government on the one hand and the state capital city government on the other. The report refers to recent experience in London and Adelaide where governance reviews conclude that the answer is a close and collaborative partnership based on a framework for action, negotiated with and supported by both the Government and the Capital City Council.

The report recalls that boundaries between the respective responsibilities of State and local government for Melbourne have not always been agreed between the State Government Ministers and Melbourne City Councillors. This is seen to be particularly true in the areas of planning and major projects although many would also acknowledge that there have been excellent working relationships between the two in such areas as business attraction to the City. Some argue that the relationship should be complementary and equal, with State Government managing economic issues and major developments and Council managing issues of a local and/or social nature. Another argument is that the relationship will always be unequal because Council is beholden to the State Government for its enabling legislation and for its "licence to co-operate". The report, pointing to the fact that at present, many large corporations bypass the Council and approach the State Government directly, argues that such direct approaches should be discouraged if more co-operative relationships are to be developed. However, the State Government has competence for approval of major projects. The report emphasised that what is more important is not so much the degree of overt conflict, *but rather the manner in which conflicts are resolved.*

The Urban Planning Summit

A key event in launching the new State Planning Agenda was an Urban Planning Summit held in 2000 between State and Local governments. This conference gave local authorities the opportunity to express their views and to put forward suggestions for reforms in the planning system. What local Councillors had to say at that time provides insights as to many of the key planning and governance issues in Metropolitan Melbourne. The Councillors:

- Stated that there was a need for a big picture metropolitan plan or strategy. A number of planning issues which urban Councils had in common were seen to need a metro-wide integrated approach, including urban consolidation, growth management, infrastructure provision, transport and sustainable development. They argued in favour of a robust metropolitan strategy based on long-term goals which could withstand short-term trends.
- Called for a close relationship between overall metropolitan strategies and the Municipal Strategic Statements (MSSs) of Councils.
- Raised the issue of differences between Councils, in particular the treatment of fringe (interface) areas and their role in urban growth which were seen to raise specific and complex challenges. Corridors, wedges, green belts, buffers, public transport and infrastructure provision were all seen to be key issues for fringe areas.
- Called for the State to take measures to reduce the shortage of qualified planners.
- Stressed the multiple problems arising from limitations on resources.
- Noted the different financial capacity of municipalities and called for the State Government to support local strategy initiatives via policies and financial assistance, for example, facilitating access to specialised advice or skills for poorer localities.
- Argued that there was a need for consistency in the State's approach to planning, but not necessarily a goal of identical outcomes as these need to be adapted to specific situations.

- Called for the State to set standards, rules and frameworks.
- Called for clearer definition of state metropolitan and regional policies and greater clarity on the roles and responsibilities of state and local government respectively.
- Expressed concern over the role of referral authorities in the new planning scheme and the complexity of the scheme for users, professionals and decision makers, underline the need for training, education and communications.

The participants in the Urban Summit were all associated with either State or local government, but were sensitive to the existence of many other stakeholders in urban planning. There was a call for a transparent structure and equitable process for stakeholder investment in urban planning. A key view was that non-government stakeholders should be involved in the very early stages of policy and strategy development so that their views could be incorporated, their subsequent proposals be more appropriate, and their sense of “ownership” of the planning system reinforced.

In parallel with the Urban Summit, the State Government, through DOI, set in train preparations for developing the Metropolitan Strategy. This important initiative responds well to many of the points raised by the Councillors in the Urban Summit.

The Metropolitan Strategy concentrates on policies for land use management and transport development, but puts great emphasis on using these policies in a way that supports broader economic, social and environmental objectives for Melbourne and its immediate surrounds. However, the scope of the Strategy has been constrained by limiting it only to the policy levers which DOI has jurisdiction to apply directly, although other State Departments are enjoined to take the Strategy into account in their future infrastructure decisions. This raises the important governance issue of interdepartmental co-ordination, sometimes achieved within the framework of area based strategies, which is discussed below.

Inter Sectoral Co-operation in Area-Based Strategies

Prior to the reforms introduced by the Bracks Government or the development of the Metropolitan Strategy, a number of territorial or “area-based” policies were already emerging as a complement to sectoral policies in the Melbourne Region. The need for an area-based partnership approach to urban regeneration grew out of the necessity to restructure the urban region in to help it recover from the economic crisis which struck Melbourne the first half of the 1990s. A number of partnerships involving

different State Government departments, specialised agencies, other levels of government, business and civil society were formed to tackle complex situations in specific locations. These projects demonstrated the capacity of the State Government to work hand in hand with local government to develop territorial approaches as a complement to sectoral policies. For example, a Smart Move Campaign was initiated in Geelong to respond to a community suffering from a crisis in confidence, widespread negative perceptions, unemployment five per cent above the State average, and a population in decline.

This trend to complementing or adapting sectoral policies to produce area based multi-sectoral partnerships has continued with:

- The recent Latrobe Valley Ministerial Taskforce which has made far-reaching proposals aimed at turning around the economy and social situation in the Latrobe Valley (Gippsland) See Box.
- The Community Building Initiatives, under the Department of the Premier, which will develop 10 pilot projects in rural and regional Victoria and in Melbourne to regenerate areas suffering from acute socio-economic problems.

However, more widespread use of this approach requires improvements in inter-departmental co-operation and a higher focus by all departments on the territorial aspects of their policies and programmes.

Improving Interdepartmental Co-ordination and Territorial Aspects of Policy

The capacity for strengthening the impact of the Metropolitan Strategy by creating synergies with the policies and programmes of other departments exists. As noted above, a main challenge, which the State Government has begun to tackle, is to effect a change in emphasis, modernising the traditional governance approach from a top-down authoritarian model towards a model which:

- accommodates both bottom up and top down inputs;
- more fully incorporates the growing variety of stakeholders (business, civil society, etc.); and;
- applies a more integrated “outcome oriented” policy approach which can better focus policy action on specific territories (large and

small) and on specific groups of people whenever this is deemed necessary.

Two examples of how interdepartmental co-ordination can be improved in support of broad “triple bottom line” goals of the Metropolitan Strategy are readily available (see Boxes 5 and 9 Community Building Projects and the Municipal Public Health Planning Framework). Many others could be identified and connected more explicitly to the Metropolitan Strategy.

Metropolitan Melbourne and the OECD Principles of Metropolitan Governance

One of the strengths of the governance structure in Victoria has been the ability of State Government to take major decisions almost unilaterally and across all municipalities, urban and rural, by virtue of the “top-down” approach inherited from the time when Australia, like Canada, was “administered” rather than “governed”. However, this approach is no longer well adapted to improving the competitiveness and liveability of the Metropolitan Region of Melbourne in the global economy. To meet the challenges thrown up by the complex social and environmental problems which accompany globalisation, it is now widely accepted that a more flexible form of governance involving multiple stakeholders is advisable, even if it is more complex to manage. The State Government of Victoria is thus actively modernising the governance system. Local authorities are participating in this reform and are keen to play a more responsible and co-operative role.

In proposing the Metropolitan Strategy, the State government has recognised that the territory of the metropolitan region in Victoria must be treated in a holistic fashion. As mentioned previously, many metropolitan regions in other countries, also face important problems in their attempts to create a metropolitan identity or territory. In many countries, the problem has been to better co-ordinate the fragmented network of municipalities making up a metropolitan region when the functional territory has expanded beyond the administrative boundaries and a metropolitan level strategy is needed to deal with area-wide problems such as transport or social inequalities.

In Melbourne, the State Government has been able to make strategic decisions affecting the entire metropolitan region, but the role of the composing municipalities has been quite weak. In the future, there is a dual challenge:

- first to improve the equilibrium between the “bottom up” or local level of government and the “top down” or state level; and,

- second, to improve co-ordination and co-operation between the composing municipalities and create a “sense of identity” in order to achieve broad economic, social and environmental goals for this important metropolitan region.

The proposal to introduce a Strategy focused on metropolitan Melbourne is therefore an excellent initiative. However, to be really comprehensive, the scope of the Strategy requires to be broadened from its present land use, transport, planning, infrastructure focus by including more active participation by other State Government Departments, by local government bodies, and by representatives of business and civil society in order to achieve broad sustainable development objectives. The State Government and local authorities should consider what innovations to the institutional framework could best serve this purpose. Improving the focus on the metropolitan region of Melbourne in no way detracts from the concern of the State Government to improve the quality of life and economic potential of the entire State of Victoria. On the contrary, a well-governed metropolitan region should benefit the State as a whole.

Principles of Metropolitan Governance

In June 2001, the Council of OECD welcomed the Principles of Metropolitan Governance developed by the Territorial Development Policy Committee. The Principles are based on a three year study of metropolitan areas (“Cities for Citizens: Improving Metropolitan Governance”, OECD, 2001). The study suggests that great scope exists for the adjustment and reform of institutional, financial and fiscal frameworks in metropolitan areas and proposes a set of governance principles (see Box 7.1) to help Member countries to reap the benefits which good governance and “smart growth” offer and to achieve more sustainable forms of urban development.

The OECD report *Cities for Citizens: Improving Metropolitan Governance* argues that reforms to improve metropolitan governance need to be situated within a broad perspective. Because cities are the engines of growth, Member countries have every interest to examine how policies to improve governance at the metropolitan level can develop competitiveness, promote more sustainable development, and enhance social cohesion. Reforms in governance, including decentralisation and the growing use of public-private partnerships, have modified the setting of priorities and financing of investment, and raised important questions about accountability and democratic participation. It notes, however, that there still exist shortcomings in current governance arrangements in metropolitan areas, such as:

- Urban sprawl, arising in part from competitive pressures within metropolitan areas. Sprawl necessitates the provision of major infrastructures and poses serious problems for strategic planning, often weakening the urban core.
- Social integration, which is difficult to achieve in metropolitan areas due to socio-spatial fractures which concentrate certain groups in “distressed areas” and require multi-sectoral metropolitan wide strategies.

The OECD report stresses that even if no one uniform model of metropolitan governance can be generally applied, the changes recently introduced in many countries share some common principles which, when brought together, constitute a solid benchmark for assessing the adequacy of the systems of governance of large cities.

Box 7.1. OECD Principles of Metropolitan Governance

There is no one model of metropolitan governance. It is clear that (in addition to the broad principles which underlie any adequate system of democratic government – transparency, accountability, accessibility, representativeness, constitutionality, and protection of fundamental freedoms) a number of principles can also be applied in order to define the adequacy of systems of governance for metropolitan regions in the 21st century.

Cities for Citizens. Cities should be developed, not only to meet the needs of the economy, but also to help fulfil the aspirations of people for a higher quality of life through measures that can also maintain and enhance the attractiveness and liveability of cities.

Coherence in Policy. The objectives and institutional frameworks of metropolitan governance should be adapted to and focused on key local problems such as economic development, affordable housing, congestion, sprawl, safety, environmental quality, and the regeneration of older areas, which should be tackled simultaneously, taking into account linkages and trade-offs.

Co-ordination. Metropolitan governance must reflect the potential and needs of the entire urban region. The roles and responsibilities of each level of government in respect of metropolitan areas should be clearly defined in order to facilitate policy coherence and cross-sectoral integration. Given the

administrative fragmentation of metropolitan regions, co-ordination is also necessary among local authorities across jurisdictions, and between elected authorities and various regional boards or agencies with functional or sectoral responsibilities.

Endogenous Development. Rather than basing economic development mostly on attracting investment through financial and fiscal incentives, emphasis should be put on investment in infrastructures and human development to take best advantage of local resources. Metropolitan governance can help to set priorities, taking a coherent approach to development based on the strengths and opportunities of a region.

Efficient financial management. Metropolitan governance should allow for the costs of measures to be reflective of benefit received and assure complete transparency, accountability and monitoring. It should also guarantee that all parts of the urban region are considered in assessments of the appropriate level for and of the costs and benefits of, public services.

Flexibility. In order to adapt as necessary to economic and social trends, technological innovation, and spatial development, institutions have to be open to changes. A forward-looking, prospective approach is also indispensable to allow for flexibility as well as sound strategic planning.

Particularity. Except where the case for standardisation is justified, policies and institutions of government must be crafted to fit the unique circumstances of various parts of the country and to achieve the best cost efficiency of measures.

Participation. Given the growing diversity and size of metropolitan regions, governance must allow for, the participation of civil society social partners and all levels of government involved in the metropolitan area. New technologies and methods of communication can encourage and support more inter-active policy environments, bringing government closer to people.

Social cohesion. Metropolitan governance should promote a mix of population, non-segregated areas, accessibility and safety, and the development of opportunity, and facilitate the integration of distressed urban areas.

Subsidiarity. Services must be delivered by the most local level unless it has not sufficient scale to reasonably deliver them, or spill-overs to other regions are important.

Sustainability. Economic, social and environmental objectives must be

fully integrated and reconciled in the development policies of urban areas, as reflected in the concepts of the healthy city and the ecological city; in the context of the wider bio-region, this implies greater co-operation between urban and rural areas.

Source : Cities for Citizens: Improving Metropolitan Governance, OECD 2001.

The assessment of the OECD Review of Melbourne is that the Victorian State Government, through its policies and the Melbourne Metropolitan Strategy is in the vanguard of metropolitan areas in OECD in terms of governance and is in line with the OECD Principles of Metropolitan Governance. The reform and modernisation of State planning currently underway, the State Policy Agenda, and the Metropolitan Strategy all combine to create a framework for a very high level of economic, social and environmentally sustainable development which should underpin a prosperous future for Metropolitan Melbourne and the State of Victoria. The openness of the State Government in inviting OECD to undertake a Territorial Review is symptomatic of the forward-looking approach of the Victorian State Government.

Despite this praiseworthy effort, however, the OECD Review has highlighted several areas which, unless tackled early have the potential to become problematic:

- The equity and efficiency of a number of State level policies, for example in the domain of health, would benefit from a rationalisation of roles and responsibilities and funding between the Commonwealth and the State Government in order to improve policy transparency and accountability and avoid duplication.
- The balance of the current system of governance in Melbourne leans rather too heavily towards a top-down approach, both in institutional and financial terms. This reduces the very considerable contribution which a more responsible local level could provide in resolving numerous social, economic and environmental issues. Steps are already underway to address the issue of subsidiarity and this effort should be pursued vigorously. In this respect, the Metropolitan Strategy is a step in the right direction although its scope requires to be broadened to involve even more closely key policy sectors, business and civil society representation.

- In line with the national situation, Victoria is a state which in several decades has moved from being a quite homogenous to a multi-cultural society. Adjusting all aspects of governance to take this important change fully into account is an important task for the years ahead.

Assessment

- The State and local governments should continue to pursue their efforts to modernise governance. In particular, there is a need to increase the emphasis on the role of local authorities and other stakeholders in business and civil society. For example:
- The State government should continue to develop partnerships with local authorities and other strategic players to deal with matters of common interest or high priority.
- The role of local governments in the Metropolitan Strategy should be enhanced through, in particular, their Municipal Strategic Statements.
- Greater inter-municipal co-operation and wider consultation should be sought through a regular forum held every two or three years to examine general questions and key issues related to the Metropolitan Strategy. Such a forum would act as a sounding board for testing innovations and as an early warning system for upcoming problems. Participation in the forum should include all levels of government, business, NGOs and leaders of civil society.
- The education and skills of local authorities, planners and staff requires to be enhanced to ensure an adequate supply of qualified staff to support the development of Municipal Strategic Statements which are an integral part of the Metropolitan Strategy and ensure implementation. Similarly, the staff of State Departments requires to be counselled and trained to improve their capacity to work with local authorities, other governmental departments and other stakeholders.
- In addition to undertaking “an assessment of the congruence between their infrastructure investment plans and the Strategy as part of the budget process”, other State departments should be invited to develop policy statements indicating how their main

relevant policies and programmes can be tailored to better support the Metropolitan Strategy and its broad economic, social and environmental objectives. Such an approach would make the Metropolitan Strategy even more comprehensive.

- The Metropolitan Strategy should include provision for a multi-sectoral area based approach to “vulnerable” municipalities in the Region. Reducing socio-economic spatial disparities between the suburban municipalities of Metropolitan Melbourne and in regional cities is important for the future economic and social well being of the Region and should be classified as a top policy priority.

Public Finance

A stronger role for local authorities – as proposed above – would however be limited by insufficient financial resources or by lack of sound fiscal management of these local authorities. The aim of the following subchapter is thus to look at the fiscal situation of Melbourne. It starts with some general considerations on the effects of recent developments in the global and national environment for public finance in metropolitan cities. This leads to discussion of the public finance system in Australia and the structure of revenue sources within Victoria and Melbourne and of the general performance of the different government levels with regard to their public finance during recent years and future budget initiatives. Throughout the subchapter, the focus will be on the situation of Melbourne within the broader framework of public finance in Victoria and Australia. The Australian public finance system is very centralised and top-down, leaving local governments only little fiscal autonomy and leading to strong vertical fiscal imbalance across government levels.

Public Finance in Metropolitan City Regions – Problems and Opportunities

Factors Influencing Public Finance in Metropolitan Cities

According to OECD (2001d) metropolitan cities are increasingly faced with challenges to tackle their fiscal situation that result from their economic, social and governance environment. The main challenges can be summarised as follows (pp. 95):

- Decentralisation of public tasks have increased the burden of local authorities without necessarily giving them also the financial resources. In contrast, higher level governments have been reducing or redistributing transfers and have been imposing strong budgetary

discipline on the sub-level or local governments leaving local governments only little room and flexibility on how to finance the services they have to provide.

- Changing economic and business environments have made metropolitan regions more vulnerable. Specific threats arise from the increasing importance of multinational firms that easily relocate affiliates to another area thus reducing the local tax base. And, the need for restructuring of businesses can lead to shedding labour which again weakens the local financial base.
- Growing socio-economic distress and discrepancies within or between the metropolitan area and the fringe and suburban regions increase the need for additional services and public funding. Unemployment or low-income employment might lead to a further erosion of the tax base reducing capacity to address such socio-economic problems in general or in specific areas.
- Growing population and an increasing share of elderly and non-active population will require substantial investment for housing, infrastructure and social services. At the same time, these people will not contribute to the same degree as the active population to the local revenue base.
- Urban sprawl, restructuring of land markets and the increasing inter-city and inter-state linkages make further investment necessary for building and upgrading of transportation and ICT-infrastructure as well as for improving environmental and living conditions within the metropolitan region.

Issues of National and Sub-National Public Finance and Vertical Fiscal Imbalance

The instrument that is still mainly used to raise fiscal revenue in order to finance public services is taxes. However, there are divergent views on which level of government is the most appropriate to raise taxes. The choice of the best tax assignment system is however important since it influences the level of vertical fiscal imbalance within a country. A high degree of vertical fiscal imbalance prevails when national governments raise substantially more revenue than they spend, while local governments lack own revenues to finance services. According to SBTRC (2001), there are mainly two effects of vertical fiscal imbalance on the accountability of governments that have to be taken into account. Firstly, federal governments

are less accountable for marginal spending since several outlays are transferred to the states and local governments. This can lead to inefficiencies and excessive bureaucracy since there are few incentives to allocate funds efficiently. Secondly, state or local governments might be less accountable since they have to rely on federal grants while being unable to collect marginal revenue on their own account to meet the desired expenditures, thus limiting the incentives or the possibilities to provide services efficiently.

The theoretical literature mentions mainly two strands of argumentation with regard to the way taxes should be assigned, *i.e.*, how particular taxes should be allocated to the different tiers of government. These are the “traditional approach” as outlined by Musgrave’s guidelines for tax assignment and the “tax effectiveness approach” as developed by Russel. Both approaches have in common that some division of responsibilities and authority to collect taxes is reasonable. They diverge in the underlying reasons behind their preferred approach. According to Musgrave, the tax assignment depends mainly on the tax base and the objective that has to be fulfilled through the particular tax. His guidelines can be summarised as follows [SBTRC (2001, 2)]:

- “taxes should be levied by a central government if the tax base is more intra-nationally mobile than inter-nationally mobile;
- In the case of taxes with a global tax base, the tier of government that can most effectively administer the global tax should levy progressive personal taxes;
- progressive taxes that are designed to achieve re-distributive goals should be allocated to the highest tier due to the problem of adverse selection;
- taxes used by lower tiers of government should be relatively stable along the business cycle, while taxes that are suitable for stabilisation policy should be allocated to the higher tier;
- taxes should be centrally levied if the tax bases are unevenly distributed among sub-jurisdictions, *i.e.*, if there are immobile resources;
- benefit taxes and user charges can be applied by any tier of government.”

According to these guidelines, the tax assignment across tiers of government would be relatively centralised. This would especially be the case if the guidelines were applied to the more recent developments of globalised economic activities with increasing competition between states for business allocation and with a growing need for re-distributive goals due to the increasing share of elderly people in the population and due to increased socio-economic discrepancies across and within regions.

In contrast to the traditional approach, the tax effectiveness approach proposes to allocate taxes to the tier of government that can maximise equity and other objectives like allocative and operational efficiency. Thereby, the central government would assign exclusively progressive annual capital and income taxes as well as consumption taxes and would levy customs duties and social security contributions. The state would raise taxes and fees like excise duties, gambling taxes and energy and land taxes, and would have some share on the revenues raised.¹ And, the local government would levy property taxes and direct charges, as well as have some share on tax revenues raised at the federal or state level.

The tax assignment systems that are in operation in OECD-countries reflect to some degree a mixture of both assignment rules discussed above. Taxes are clearly assigned to different government levels, but are to some degree harmonised across and within these different government levels. This gives the states and local governments according to the SBTRC (2001) more discretionary power concerning the choice of taxes as well as tax bases and rates. And, because of the resulting competition between the states it improves efficiency and reduces costs of co-ordination. Harmonising taxes then reduces administrative costs, increases tax equity and reduces incentives for inter-jurisdictional migration of tax bases, thus protecting state revenue bases. Thus, tax assignment systems that are used in different OECD-countries depend on the degree of centralisation of government and, related to this, the preference within the country for competition *versus* tax harmonisation.

This is clear by comparing the tax assignment of the United States and Germany. In line with the strong preference for competition, the United States has adopted a decentralised system with tax competition on all levels of government and almost no revenue sharing. In contrast, the German system relies much more on a mix of tax assignments across government levels combined with some harmonisation and tax sharing. Especially the extensive use of sharing revenues from corporate and personal income tax as well as the VAT would ensure according to the SBTRC (2001) low fiscal vertical imbalance. What the review especially underlines in the German system is the constitutional recognition of the role of the state and local

governments as well as the focus of the inter-governmental relations on a consensual-decision making process with a strong role of the states.

Sound Fiscal Management

The positive effects from assigning more governance and fiscal power to the sub-national authorities however will only be materialised if these local authorities are capable of exerting sound fiscal management. According to OECD (2001h) the assessment of public expenditures should include mainly three items. Firstly, public expenditures have to be considered in relation to their macroeconomic impacts. A lack of adequate planning, evaluation and controls in the formulation as well as in the implementation process might lead to overestimation of public expenditure needs. Inadequate design of inter-governmental relations might aggravate this even more. And, economic costs arise from disincentive and distortionary effects of the taxes which would be necessary to raise in order to finance the public expenditures. Although there are – according to OECD (2001h) – trends in OECD-countries towards lower taxes, these negative economic effects have to be taken into account, especially since, due to an ageing society, demands for more spending and shortages of revenues may increase in the future.

Secondly, as already mentioned in the economic policy Chapter 4, public expenditures have to be assessed from the allocative efficiency point of view. Although there might be justification for government intervention in the provision of public goods or services, this does not necessarily mean pure reliance on public expenditures. According to OECD (2001h), a decision in favour of public expenditure should be reserved for cases where it is more appropriate because of simplicity-, fairness- or cost-effectiveness-reasons. Rather, provision of public services could take the form of a mix of expenditures, regulatory arrangements and tax incentives and could be combined with self-regulatory codes of conduct in the private sector – as long as such a shift away from pure reliance on public expenditures would not again lead to disincentives and distortions. OECD (2001h) mentions for instance that in countries like the United States regulatory mandates and tax incentives have been designed to provide incentives for the private market to provide for and to invest into social protection like pensions and health care coverage.

Thirdly, technical efficiency in the sense of an efficient implementation of public expenditures has to be taken into account. According to OECD (2001h), obstacles for technical efficiency might be complex bureaucratic structures, highly centralised decision-taking, lack of management capacity on the part of the responsible authority, strong union power, as well as rigid and entrenched work and management habits.

Addressing all these three elements of an efficient management of public expenditures, OECD (2001h, pp. 17) proposes to base the assessment of public expenditures on the following questions:

- Are processes of evaluation and planning in place to ensure that public expenditure decisions are based on a realistic view of their costs and overall affordability? Is public expenditure sufficiently well-controlled? Is spending by lower levels of government either adequately overseen and controlled by the Finance Ministry or is it dependent on their ability to finance it without recourse to the central government? Is the tax burden needed to finance expenditure likely to be acceptable with regard to its economic effects and sustainable as regards the long-term revenue base? Do periods of buoyant revenues and strong fiscal positions encourage rises in expenditures that are difficult to reverse?
- Is government intervention warranted in all areas where public expenditure is taking place? Is the mix of public expenditure, regulation and tax incentives appropriate? Is the performance of the government tier in achieving public policy goals commensurate with the resources allocated to them? What is the reason for a possible under-funding and how can such a problem be eased?
- Is comparative information concerning technical efficiency – for instance benchmarking – available and is it used as an input to policy changes? Can areas be identified where there is significant scope for efficiency gains?

These considerations on sound fiscal management then lead back to the optimal assignment of responsibilities and revenue collection across the different tiers of government. According to OECD (2001h, pp. 27), “achieving effective management of total public expenditure is greatly facilitated if these responsibilities ensure that decision-making authority rests where it can best be exercised and if these financing arrangements ensure that spending decision take account of the full costs that they entail.” However, the allocation of tasks to local government does – according to OECD (2001h, p. 29) – “not preclude central governments from providing financial support in order to *a*) internalise spillover benefits to other jurisdictions, *b*) ensure fiscal equalisation across jurisdictions and *c*) guarantee a more equitable and efficient overall tax system”.

To improve the fiscal discipline and fiscal situation of the local authorities, governments can (OECD, 2001d):

- increase efficiency at the local level, thus produce more services with less money;
- modify the composition of the revenues, for example by increasing the proportion of user charges and making the property tax more homogenous across the metropolitan area;
- outsource services as well as transfer financing and operation of utilities;
- “export” tax burden through for instance the central tax system or through increasing sales tax;
- shift the tax burden from the residents to the workplaces, thus improving the revenue-cost-relationship of local expenditures;
- introduce systems of equalisation also on lower levels of government.

Public Finance in Melbourne Metropolitan Region

Vertical Fiscal Imbalance

The Australian tax assignment system is relatively centralised as compared to other federations like USA, Canada or Germany (Table 7.1). However, it comes very close to the tax effectiveness approach as described above. The Federal Government raises or assigns exclusively personal and corporate income taxes, goods and services taxes, customs duties and social security contributions. States raise property and payroll tax, gambling and energy or motor vehicle taxes. Local government levies property taxes and direct fees or charges.

Table 7.1. **The tax assignment system in Australia**

Federal	State	Local
Company income tax	Payroll taxes	Property tax
Personal income tax	Property taxes	Fees and fines
Goods and services tax	Taxes on financial and capital transactions	
Fringe benefits tax	Insurance taxes	
Superannuation tax	Franchise fees	
Withholding tax	Motor vehicle taxes	
Petroleum resource rent tax	Gambling taxes	
Customs and Excise Duty		

Source: SBTRC, (2001).

Different from the tax assignment system which would result from the effectiveness argument however, neither the state nor the local governments (directly) share revenues from income or goods and services taxes in the more narrow sense. Such tax sharing would take the “capacity to pay” into consideration. According to Caulfield [in OECD (2001d) and SBTRC (2001)], fiscal equalisation in Australia is however achieved through the distribution of grants from the federal to the state and from the state to the local government level. According to RCSF (2001), Commonwealth grants to the States total approximately AUD 50 billion per year. These include about AUD 30 billion in form of untied grants and AUD 20 billion from Specific Purpose Payments (SPPs) or tied grants.

Within the Commonwealth’s fiscal equalisation scheme “State Governments should receive funding from the Commonwealth such that, if each made the same effort to raise revenue from its own sources and operated at the same level of efficiency, each would have the capacity to provide services at the same standards”. (Commonwealth Grants Commission, 1999, quoted from RCSF (2001)). According to the RCSF (2001), the aim of the CGC is thereby to be policy-neutral, *i.e.*, states would receive above average money if it can be proven that they either face higher costs in providing services or that they have a lower capacity to raise own revenues for reasons outside their control. The elements of the formula, with which the States’ grants entitlements are then calculated include according to RCSF (2001, p. 18):

- “a per capita share of the total pool of funds;
- plus ‘expenditure needs’ to reflect differences in the demand for, or cost of, services between States (*e.g.*, due to socio-demographic and location characteristics);
- plus ‘revenue needs’ to offset differences in revenue raising capacity between states (*e.g.*, differences in capacity to collect mining royalties);
- plus ‘needs for Specific Purpose Payment’s to offset differences in levels of Commonwealth Specific Purpose Payments received by States.”²

According to SBTRC (2001), one consequence of the Australian tax assignment system is that the states compete for businesses location by raising narrow taxes like the payroll tax and taxes with distortionary effects like stamp duties or exemptions and preferential rates. The following table

makes this point clear. Firstly, the Victorian tax system is heavily reliant on stamp duties and other narrow and distortionary taxes. Only about 29 per cent of the overall tax revenues come from the payroll and land tax while broader tax bases are dominated by the Commonwealth. Secondly, while land tax is the more efficient tax as compared to payroll tax and the one with the possibility to be raised on a very broad base, only around 5 per cent of the overall tax revenue is due to land tax. In contrast, the tax load per firm paying payroll tax is much higher. Thirdly, the pre-reform Victorian tax system is characterised by a large amount of exemptions from the tax. Some of the exemptions have been removed during the recent business tax reform. Removing exemptions further on would however strongly broaden the tax base and would thus lead to a more equal tax system than it was – and still is.

Table 7.2. State taxes, revenues raised and number of payers, 1999–2000

Tax	Revenue, In mio AUD	Number of payers/transactions
Payroll tax	2 367.5	14 300
Land tax	410.7	130 197
Metropolitan environment levy	69.1	1 338 700
Stamp duty on conveyances and land transfers	1 293.7	190 447 (207 294 incl. exempt transactions)
Stamp duty on marketable securities	256.5	375 registered brokers, 29 712 off-market transactions (50 344 incl. exempt transactions)
Stamp duty on mortgages	118.5	330 299 (343 490 incl. exempt transactions)
Other property taxes	9.6	n.a.
Gambling taxes	1 520.1	3 agencies plus bookmakers
Stamp duty on general (non-life) insurance	300.8	292
Stamp duty on life insurance business	9.3	70
Stamp duty on compulsory third party vehicle insurance premiums	79.9	1 payer, 3 604 185 transactions
Stamp duty on motor vehicle registration and transfers	418.2	2 243 (incl. Only registered used car dealers)
Non-heavy vehicle registration fees	340.7	2 911 362 (includes 811 226 non-fee payers, i.e. pensioners and Health Care Card holders)
Heavy vehicle registration fees	92.9	135 646
Drivers' licences	28.5	267 088
Stamp duty on non-residential leases	31.7	31 012 (31 915 incl. exempt transactions)
Stamp duty on rental business	44.3	1 791
Debits tax	252.0	29 institutions
Financial institutions duty	359.3	448 institutions
Liquor licensing fees	5.8	12 020
Livestock compensation duty	3.8	114
Total	8 012.9	

Source: State Business Tax Review Committee (2001).

With regard to local governments, the taxing autonomy is even more restricted. Thereby, the constraints are not necessarily in the amount of revenues that are raised by tax collection or fees and charges raised. According to Table 7.3, local government areas in Victoria cover about 43 per cent of their revenues by property tax revenues, another 20 per cent with revenues from fees and charges and between 2 per cent and 18 per cent from state or federal grants. Thereby, the distribution of revenues is different across the local government areas within and across the Metropolitan Region and the regional and rural areas in Victoria. While Melbourne CBD, covers about 47 per cent from property tax revenues and about 10 per cent from sales of capital assets, local government areas like, Brimbank, Hobsons Bay, Moreland, Darebin, Whitehorse, Knox, Maroondah, Yarra Ranges, Glen Eira, Greater Dandenong and Frankston cover about 18 to 20 per cent of their revenues by grants and financial assistance from the state or the federal government – however still relatively low in international comparison.³

The constraints lie rather in the high share of property tax revenues on the overall revenues. In principle, property taxes fulfil the conditions of the traditional approach for an optimal tax assignment to local governments – as described above under the Musgrave guidelines of tax assignment and Caulfield [in OECD (2001d)]. It is relatively stable along the business cycle, its tax base is not very mobile, thus it prevents the re-allocation of households or firms from high – to low tax areas. And, the tax is visible, this facilitates the control of fiscal accountability and creates the link between the tax burden and the benefits. Whether it is easily to administer – as it has been claimed by Caulfield – depends on the way, the property tax is calculated. However, the property tax is against the “capacity-to-pay”-principle of taxation which would demand progressive rates; it is thus not optimal from an equity point of view. The property tax does not take the income of the households into account and is thus regressive in nature, *i.e.*, high-income households might pay relatively less than low-income households.

Table 7.3. Revenue distribution in local government areas in Victoria 1999-2000, in %

	Property tax	Fees and charges	Grants and financial assistance
Melbourne CBD	46.8	34.9	2.8
Inner Melbourne	46.3	33.5	5.6
Melbourne Metropolitan Region	44.8	21.6	14.2
Total Victoria	42.8	20.4	18.4

Source: Australian Bureau of Statistics, OECD calculations.

Additionally, there are no tax sharing arrangements in the narrow sense between the local and the state government in the Australian tax assignment system. Each state has its own Local Governments Grants Commission (LGGC). The distribution of grants from state to the local government follows then in principle the Commonwealths system, with the application of the formula being different across and within metropolitan and rural councils, and on a per capita basis. As a consequence, the Melbourne Metropolitan Region is indirectly subsidising all other Victorian local governments, as it is indicated by the table. It contributes to a very high degree to the economy of Victoria and thus to the revenues in form of payroll and sales taxes, however it receives only about 3 per cent of state grants and financial assistance. Despite the “fairness” – and the equity-argument, this might hinder – according to the considerations above – an efficient allocation and use of resources – which could be reduced by some tax sharing arrangements.

The Influence of the GST and the Reform of the Inter-Governmental Financial Relations

In mid-1999, the Commonwealth launched a reform of the Commonwealth-State financial relations, the Intergovernmental Agreement on the Reform of Commonwealth-State financial relations (IGA). The most significant element of the reform is the introduction of the Goods and Services Tax per cent on all sales. According to SBTRC (2001), the main features of the reform of the IGA can be summarised as follows:

- “financial assistance grants and revenue replacement payments paid by the Commonwealth to the states ceased on 1 July 2000;
- all GST revenue flows to the states;
- the states will abolish financial institutions duties (FID) and stamp duties on quoted marketable securities from 1 July 2001, and have adjusted their gambling tax arrangements to take account of the GST from 1 July 2000;
- since 1 July 2000, the states no longer provide support for off-road diesel uses. The Commonwealth is offering rebates of its excise and customs duties for most off-roads diesel uses; and
- the states are required to fund the new national First Home Owners Grant scheme and the Australian Taxation Office’s (ATO) costs of GST administration.”

The introduction of the GST is positive from several points of view, mainly since it broadens the tax base and by simultaneously abolishing inefficient or narrow taxes reduces the distortionary effects from the tax burden. The fact that the GST is enacted at the Commonwealth level and all revenues are distributed entirely to the states might however have an additional negative effect on the vertical fiscal balance. Directly this will be the case for the vertical fiscal imbalance between state and federal government, and indirectly through the fiscal equalisation scheme between federal, state and local governments.

The following table shows the effects of the GST on the Victorian Budget. In general, the reform of the IGA does not result in any additional revenue for the States. In contrast, each State will have to be provided budget balancing assistance to cover this shortfall during the first years by the Commonwealth. In the case of Victoria this means that Victoria's own revenues are shrinking on average about AUD 2.5bn each year. According to SBTRC (2001, p. 6), the share of own revenues on the overall revenues is forecast to decrease from 58.3 per cent in 1999 (before GST) to 55 per cent in 2000-2001 and 50.6 per cent in 2003-2004.

Sound Fiscal Management

Both the state government of Victoria as well as the local governments within the Metropolitan Region seem to exercise a quite sound fiscal management, as reflected in a budget surplus and low new debt (Table 7.1). As can be seen in the following diagrams Victoria managed to increase its budget surplus during the Kennett government to about 2.5 per cent of GSP. In the first year of the Bracks government, since 1999, the budget surplus sharply decreased to about 1.5 per cent of GSP, and is now equal to the surplus-GSP ratio of New South Wales. Additionally, according to VECCI (2001) general government debt is expected to fall from AUD 3.9bn in June 2000 to about AUD 2.7 bn in June 2002. And, the revised general government net debt is forecast to decrease by about one percentage point, from 2.5 per cent in June 2000 to 1.5 per cent in June 2002, a remarkable figure after a net debt of about 30.1 per cent of GSP in 1993. The fact that Victoria has had a budget surplus over the last five or more years can be partly explained by the privatisation of main infrastructure and higher university education of both the federal and the state level during the 1990s. The stronger volatility in the surplus, especially the downward trend after 1999, can be partly explained by the respective development of GSP *vis-à-vis* the development of public revenues and expenditures. The downward trend might however indicate the response to the new initiatives

of the Bracks government, as outlined by the “Growing Victoria Together” framework – as described below.

Also the local governments show a relatively good performance – on aggregate as can be seen from Figure 7.2. On average, the Victorian local governments managed a budget balance in the most recent years. While Inner Melbourne, *i.e.*, the CBD, Port Phillip and Stonnington, had to face increasing long-term debt in 1998, total Metropolitan Region of Melbourne managed to bring long-term debt per head down to zero. The performance of the CBD of Melbourne is particularly remarkable according to these results. The last two years show a strong upward trend towards budget balance or even surplus and continuous zero debt over the last four years. The budget surplus is thereby mainly due to reduced outlays at almost constant revenues.

Table 7.4. **Impact of the GST on the Victorian budget, in AUD million**

	2000-01 Revised	2001-02 Budget	2002-03 Estimate	2003-04 Estimate	2004-05 Estimate
Change in revenue					
GST revenue	5 534	5 933	6 060	6 337	6 595
Growth dividend	27	38	50	64	79
Financial institutions duty		-342	-387	-398	-410
Marketable securities		-205	-227	-240	-254
Gambling taxes	-367	-390	-416	-443	-471
Safety net revenues	-1 433	-1 581	-1 643	-1 770 ⁶	-1 776
Off-road diesel rebate	50	58	61	64	87
WST equivalent payments from GBEs	-5	-5	-5		
Financial assistance grants foregone	-3 657	-3 716	-3 745	-3 811	-3 826
Total change revenues	150	-212	-251	-135	5
Change in expenditures					
First Home Owners Scheme	232	237	241	246	251
Embedded tax savings	-100	-107	-115	-123	-132
Interest cost on changed CW payments	8	3	4		
Reimbursement of ATO admin. costs	247	129	93	92	90
Total change expenditures	386	261	224	215	210
Net Commonwealth guarantee payments	236	473	475	350	205

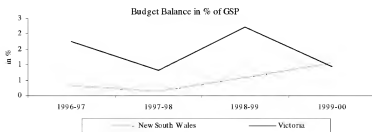
Source: Victorian Department of Treasury and Finance, 2001.

For the Victorian Government (2001), a sound fiscal position is “essential to ensure that improved services can be provided to all

Victorians”. Its objectives for the long-term are as a consequence to (pp. 12):

- “maintain a substantial budget operating surplus;
- provide capital works to enhance social and economic infrastructure throughout Victoria;
- provide improved service delivery to all Victorians;
- ensure competitive and fair taxes and charges to Victorian businesses and households;

Figure 7.1. Development of budget surplus in Victoria and New South Wales since 1996



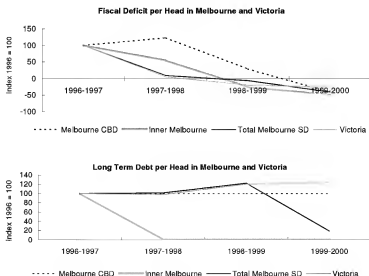
Source: Australian Bureau of Statistics, OECD calculations.

- Maintain state government net financial liabilities at prudent levels.”

For the short-term, its objectives are to:

- have an “operating surplus of at least AUD 100 million in each year;
- implement strategic infrastructure projects, including those funded from the Growing Victoria infrastructure reserve;
- expenditure priority on education, health and community safety;

Figure 7.2. Fiscal balance per head in Melbourne and Victoria



Source: Australian Bureau of Statistics, OECD calculations.

- implement reforms to Victoria's business taxation system;
- maintain a triple-A credit rating".

The Bracks government has recently launched the "Growing Victoria Together" package mentioned above. This program package comprises public expenditures to increase the competitiveness of Victoria, but also improve the social, especially the health situation, and to contribute to a more sustainable environment. The output initiatives are listed in the following table. A key feature of the Budget is to fund new infrastructure projects of about AUD 2.13 bn over the next four years – an amount that has not been seen before – according to VECCI (2001). This includes about AUD 514 m for health, aged care and community services, AUD 334 m for education and training, AUD 336 m for community safety and AUD 780 m for transportation infrastructure.⁴ The Victorian government expects a strong effect on the economy. This is strengthened by the above mentioned

extensive cuts in business taxes of about AUD 774 m over the next four years.

The initiatives are planned to be financed purely by the budget surplus and the Growing Victoria infrastructure reserve, thus without raising new debt. This would be possible due to the State's strong economic and budget performance over the last years. The effect on the future budget can be seen from Table 7.6. The budget surplus, revised for 2001-2002 to about AUD 1.2 bn will shrink by 50 per cent, to a still substantial amount of about AUD 550 m in 2004-2005. According to VECCI (2001), additionally net financial liabilities and net debt are forecast to fall over the next four years.

Table 7.5. New output initiatives by department since the 2000-01 budget, in AUD mio

	2001-02 Budget	2002-03 Estimate	2003-04 Estimate	2004-05 Estimate
Education, employment and training	67.6	82.6	101.5	112.4
Human services	263.8	298.6	315.7	315.8
Infrastructure	46.6	65.2	74.5	113.7
Justice	59.6	64.8	61.2	71.3
Natural resources and environment	40.0	53.6	53.6	53.6
Premier and cabinet	22.0	20.0	12.1	11.3
State and regional development	57.8	40.7	36.5	35.8
Treasury and finance	19.0	2.0	0.6	0.3
Parliament	3.6	1.8	1.9	1.9
Less: Funding from demand contingency	90.0	92.3	94.6	96.9
Total output initiatives	489.9	537.1	563.1	619.2

Source: Victorian Department of Treasury and Finance, 2001.

On aggregate, the past performance and the new initiatives seem to fulfil several of the pre-requisites for a sound fiscal management as outlined above. Concerning the economic effects, the State Treasury bases its fiscal decision on long-term economic forecasts, including an assessment of risks. There are processes of evaluation and planning in place for a realistic view of the public expenditure. There are controls of local government levels in place. And with regard to the technical efficiency, the Victorian government uses a target for future budget surpluses as a form of benchmarking.

However, with regard to the allocative efficiency, the assessment is ambiguous. Firstly, it cannot be stated that the period of "buoyant revenues and strong fiscal positions" of Victoria before 2001 did not encourage rises in expenditures that are difficult to reverse. On the one hand, the Victorian government stresses the fact that the enormous increase in public

expenditures and the future budget estimates take into account the actual slowdown of the Victorian economy. And, strong economic effects are expected for the Victorian economy. On the other hand, the justification for this programme package is exactly the fact that the Victorian economy had a very strong economic performance before and did not previously have such an amount of new public expenditures.

Table 7.6. Summary statement of financial performance 2001-02 to 2004-05, in AUD 1 000

	2000-01 Revised	2001-02 Budget	2002-03 Estimate	2003-04 Estimate	2004-05 Estimate
Revenues					
Taxation	8 530	7 977	8 194	8 536	8 774
Investment income	1 383	938	920	836	857
Grants	10 310	11 312	11 506	11 716	12 009
Sales of goods and services	2 048	2 112	2 123	2 147	2 162
Other revenue	1 195	1 127	1 183	1 136	1 147
Total revenue	23 467	23 466	23 924	23 372	24 948
Expenses					
Superannuation	1 422	1 507	1 534	1 565	1 589
Depreciation	818	871	918	969	1 046
Borrowing costs	603	478	486	461	454
Employees entitlements	7 991	8 412	8 753	9 012	9 302
Supplies and services	7 373	7 672	7 914	7 854	8 071
Other expenses	4 054	4 018	3 992	3 910	3 941
Total expenses	22 260	22 957	23 578	23 769	24 402
Operating surplus	1 207	509	346	602	547

Source: Victorian Department of Treasury and Finance, 2001.

Secondly, although the Victorian government has to be praised for introducing a comprehensive tax reform, abolishing to some degree inefficient taxes and reducing the absolute tax burden, there is still room for improvement. For instance, several tax exemptions as well as some stamp duties have not yet been abolished. And, allocative efficiency could also be increased by improvements in the inter-governmental tax assignment system. For instance it might be reasonable to consider the introduction of some tax sharing elements. Finally, the very central question is whether this type of government intervention is warranted and whether the mix of public expenditure and tax incentives is appropriate.

Assessment

From the previous results, Victoria and Melbourne in general demonstrate a sound fiscal performance. In recent years, the budget has

shown a surplus and the Victorian Treasury has reduced long-term debt. There are, however, two aspects where improvement would still be possible: the allocative efficiency, especially the most recent package of public expenditure; and possible inefficiencies resulting from the problem of vertical fiscal imbalance.

With regard to the first point, allocative efficiency, the previous strong performance in economic and fiscal terms would favour public spending in order to improve the social and environmental situation, especially to reduce the discrepancies between the various local government areas – as outlined in Chapter Five on the social situation within Melbourne. And there would be room to spend more on all forms of education in order to prevent a slowing of the economy. Thereby, the decision of the Victorian Treasury, not to raise new debt is reasonable. Leaving the path of sound fiscal management might be negative for the overall economy since it would reduce credibility and stability. In contrast, the Victorian Government gained credibility because of its decision to keep its hands off the market, including comprehensive privatisation, deregulation and liberalisation processes during the 1990s, both at the Federal and the State level.

The question remains however, whether the recent package of public expenditures and the mix of instruments used are warranted. Some might argue, that privatisation and deregulation have led to a detrimental situation in the provision of health services as well as in education and the use of modern information and telecommunications technologies. The reason why these privatisation and deregulation decisions did not work out in the desired way is rather that the conditions were not right for the market to work properly. This is especially true for the telecommunications market where lack of competition on the services market may have led to the dominant position of Telstra. It may also be true for the health and social services, where the strong cuts in expenditures, without at the same time promoting private initiatives to invest in respective insurance, may have contributed to the vulnerability of several areas within Melbourne. There, however, the problem might be aggravated due to the development towards a growing and ageing society.

As a consequence, it might be reasonable to shift public intervention in general away from a strong reliance on public expenditure and shift the focus of public spending also in the longer term away from road infrastructure towards health and environment services and education. What is required is not to increase the total amount of roads available, but rather to improve the quality and the efficiency of management of transportation in order to allow people to choose their mode of transportation without creating adverse externalities. The argument for public spending on health

services and education is based on the type of market failure that is persistent there. It is related to the discrepancy between the short-term orientation of private actors or individuals and the rather long-term nature of the returns from investment into health and education.

This however must not be misunderstood as a total withdrawal from investment in road infrastructure. Road infrastructure is one of the main factors for location of firms and must not be neglected. In contrast, it might be more reasonable to think about different ways to finance and maintain road infrastructure – for instance road pricing in form of public-private partnerships, but introduced within a broader package of measures for efficient transportation management. This would reduce congestion, and thus transportation costs because of shorter travel times. And it would have positive long-term effects for the economy but also the environmental situation. It is clear that not all infrastructure projects are feasible with such a public-private solution. In contrast, for some projects, public provision might even create some first mover advantage. However, it would be reasonable to introduce such a solution wherever possible. In that sense, the City Link project in Melbourne is already a first step as is the Metropolitan Strategy which provides for a comprehensive policy package.

One main advantage of this solution would be that it would free up finance for more efficient use in other infrastructure projects for different forms of services, especially health care and education. This does not mean that finance from the road user charges would be directly used for social services. This would act against the principle of charges as compared to taxes. Only taxes are levied to raise a general amount of money while charges are levied according to the use and are thus related to a direct and pre-specified counterpart. In contrast, road user charges would be used to maintain the transportation system and would thus free up funds that the government could economise in the field of road infrastructure.

However, even independent of the question whether public investment would be necessary, neither the market nor the government will be able to assume entire responsibility for the longer term future due to the trend towards a growing and ageing society. Thus, private initiative and investment will be increasingly important. The role of the government then is to:

- Promote private investment into health insurance and retirement payments. This promotion should be based on information and education about the need for and ways of how to do it.
- Promote private initiative and markets to deal with environmental problems that are for instance caused by growing demand for scarce

resources like water and energy as well as for transportation. Also here, education about the need, information about the ways to do it, and more appropriate price signals would reduce the demand for water, energy and transportation and would thus lead to a more sustainable environment.

- Promote private investment in research and education alongside public spending. Public investment in education is necessary. However, commercialisation and privatisation of university education should not be discouraged. It might improve the university-business interface and might thus lead to more research that can be applied by business, thus might increase knowledge production as well as knowledge diffusion. Additionally, there are various forms of private financing for business research, via venture capital or different equity funds as well as via building up of business angels networks. Fostering and promoting these markets would give the government the opportunity to concentrate on investing into the necessary basic research and education to build up and complement the knowledge and human capital stock for the future.

With regard to the second point, the problem of the vertical fiscal imbalances in Australia, some reform might be warranted. The analysis has shown that the problem of vertical fiscal imbalance in Australia is not necessarily reflected in a situation where the state and local governments do not have sufficient revenues in order to cover their outlays. Rather, they have to cover the outlays by raising taxes with a narrow tax base, with possibly distortionary effects or that are not desirable from an equity point of view. Introducing some more tax sharing elements would increasingly take the “capacity to pay” into consideration and would thus improve the concordance between the revenues each local or state government raises and the use of these revenues. It thus may lead to a more efficient or sound use of resources and may enable a sound long-term strategy which again would be positive for firm location and investment.

These considerations would in general support the argument for a stronger role of local governments in the Metropolitan Region. There is however the question whether this should be combined with more taxing power being assigned to the local authorities. On the one hand, a stronger autonomy in the sense of leaving the local governments the free decision of which tax instruments to choose, might lead to a more efficient resource allocation within each local government area. On the other hand, in the case of the Melbourne metropolitan, region the main objective is to better align

policies and improve fiscal management across local or regional authorities, *i.e.*, to internalize the positive and negative spillover effects from activities within one area on the others. This would be very difficult to achieve with a high fragmentation of tax collection across, and resulting tax competition between, local governments. While this may be less of a problem within a country as a whole, this might be detrimental for a metropolitan region like Melbourne, where there are strong interdependencies between the different areas – for instance reflected in the inter-jurisdictional daily travel from living to work places.

A solution to the problem might be the introduction of an institution perhaps in form of a regional development agency or a club of local municipalities within the metropolitan region of Melbourne. This institution would be situated between the state government and the local government areas and could be assigned some fiscal autonomy. As an institution between state and local governments it could represent and bring together the interests of the local municipalities leading towards a more integrative approach of metropolitan issues, but would also facilitate tackling the interdependencies between the metropolitan region with the more regional and rural areas in Victoria.⁵ It has to be stressed though, that introducing such a regional development agency does not mean introducing an additional tier of government since this would complicate administration and would thus act against the original objective of facilitating co-ordination between the local government areas. Rather, the new institution could build on the regional forum that has been proposed above for the implementation of the Metropolitan Strategy. Even more effective would be a Regional Development Agency (RDA) as has recently been introduced in the UK.⁶ Their aim is mainly to act as strategic leaders in regional and local economic development and to take on a co-ordinating function at the regional or local level for a wide range of public services.

Having the model of these UK-RDAs in mind, the introduction of fiscal autonomy and flexibility for the institution could be created by introducing a single cross-sectoral budget and by assigning to it the necessary autonomy over the use of the resources. Thereby, each local municipality would contribute some finance or fiscal power to the club-budget, with the contribution based on the population, but also the economic capability of all municipalities. Additionally or alternatively, the State Government could transfer to the institution a share of the grants that would otherwise be directly transferred to each local government. Or, introducing such an intermediate body might be one way to introduce more elements of tax sharing without increasing the overall taxes raised in the local governments. Finally, it might be reasonable to consider the precise jurisdictional form of such an institution, especially the question of whether it would be elected

separately or would be constituted according to the local government areas. It might however be advisable for the institution to have a longer mandate period than the local governments. This would enable a longer-time horizon of planning and implementing of policies. And it would make the institution less inclined towards activities like lobbying, thus increasing its accountability.

NOTES

1. For instance in form of a transfer of revenues or a rate of assessment to tax revenues that are raised at the federal level.
2. The actual calculation is then based on a five year moving average of States' relative circumstances prior to the grant allocation year (RCSF (2001)).
3. According to Caulfield [in OECD (2001d, 185)], in countries like Belgium, Ireland, Netherlands and United Kingdom, the share of grants on total local government revenue is between 60 and 80%. Even more, in Australia, the ratio of tax- to non-tax revenues have been declining, with more non-tax revenues resulting from charges instead of grants.
4. See Chapter Four on fostering competitiveness for a description of the projects for education and innovation.
5. The reference for the administrative side could for instance be the Metropolitan Region as outlined by the Australian Bureau of Statistics. This would facilitate issues of management control and monitoring as well as the (statistical) transparency the interrelations with the state and national government since it would build on an existing system of financial indicators.
6. See here for more detail HM treasury and DTI (2001).

Chapter 8
Comparative Case Studies

Each OECD Regional Review includes case studies of comparable regions. Similar kinds of regions in different countries may have much in common; an international perspective may illuminate many issues more clearly than comparisons within a single country. Case studies for the Melbourne review were developed for Boston-Cambridge, MA (US), Lille (France) and Manchester (UK). These cities were selected according to a set of criteria including their status as “second cities”, the importance of higher education and culture and of manufacturing in local economic development, the relevance of major infrastructure and housing issues, and their role as transport hubs. Each case study highlighted different aspects of the restructuring of a metropolitan region.

Lille

The Lille economy in the 19th century could be compared with some of the dynamic industrial economies of cities in contemporary Asia: a powerful production system characterised by high rates of growth and of international trade, innovation, and entrepreneurship. But after the initial phase of post-war reconstruction, the Lille economy declined when between 1962 and 1992, industry shed 130 000 jobs (and its percentage of regional employment fell from 57% to 32.8%). Emigration from the region averaged 20 000 yearly between 1980 and 2000. With over 900 000 inhabitants, the Lille regional economy in recent years has grown principally through the service sector, but with few specialisations other than in business services, mail-order businesses and commercial real estate; although much contracted, industry remains important in printing, textiles, metallurgy and mining, agro-food, and automobiles, with significant evidence of local productive systems involving intra-regional trade. A massive restructuring on this scale implied the need for more investment in training, in the cultural sector, and in improved environmental and living conditions. Many districts meanwhile remain characterised by high unemployment (20%- 30%), low incomes, and other symptoms of the social-spatial fracture.

A forward-looking strategy was introduced to break with the natural bias to reinforce traditional strengths in manufacturing, which led people to wait for a recovery rather than accept that the future would be different. The

immediate focus was on the opportunities associated with the completion of a regional metro, of high-speed rail links and the Channel Tunnel and the Euralille complex. Starting in 1986, various organisations and government departments were set up leading to the creation of a Forecasting Office, an Agency for development and urbanism, a new university plan, and other initiatives, including a bid to host the Olympic Games of 2004. Major projects require a degree of predictability and continuity in social and economic trends that may be unrealistic, and at the very least, call for new and more sophisticated methods of modelling, scenarios and frameworks. But many opportunities can only be realised if people anticipate long enough in advance, thereby taking steps to improve the quality of the environment, business services, tourist facilities, cultural attractions and human capital.

Lille is relying on enhanced accessibility with other major European centres. In Lille, state and intergovernmental co-operation and partnerships with business and associations were critical. A strategic objective to limit urban sprawl calls for one third of new housing to go on the urban edge, and two thirds onto redevelopment sites, which reverses the percentages which had prevailed in recent years. Visionary and realistic, creative and practical, these efforts at a strategic level highlighted a range of issues for Lille and its region based on decisions and initiatives that could be taken to create a functional region. There is a mutually reinforcing process underway which combines transport improvements that extend the area covered in a reasonable period of time, with investments that improve the attractiveness of Lille itself and what it has to offer. The development of the functional region (1 200 000 people in France, 700 000 people in Belgium) has cross-border aspects which require more international co-operation in a decentralised mode. Indeed, the cross-border dimension for complementarities defines the untapped specific asset of Lille. The Lille case study highlights the importance of international strategies for city-regions, and some of its aspects can be relevant to Melbourne as it develops contacts within the Asia-Pacific region.

Manchester

Manchester, which like Lille, has undergone a protracted period of restructuring, has become one of England's regeneration success stories of the last decade. In efforts to create a new economic rationale, to build on strengths such as the airport and higher education, to tackle the social and environmental problems of distressed areas, and to change perceptions of the city, a mix of policy tools required strategic planning and partnerships, cross-sectoral programmes, large-scale projects and programmes with

sufficient scale and momentum to encourage sustainable change. A top-down national policy framework helped to create not only the legal and fiscal contexts to encourage regeneration, but also to address the regional and macro-economic contexts that can support local economic development. The Manchester study highlights the importance of a flexible and long-term planning framework as a basis for the regeneration of difficult areas, including the use of consortiums (which pool risk to investors) to improve housing.

Between 1981 and 1997, Greater Manchester lost 144 000 jobs in manufacturing, which now employs only 13 per cent of the workforce. Today, in a service-sector economy, more women than men are employed, and more jobs are part-time. Much of the population of Greater Manchester has relocated within the region, leaving a number of areas in the city severely distressed. Central government programmes for urban regeneration and urban development corporations have been critical to the transformation of the housing stock and to demonstrating the value of partnerships, but with more emphasis on hard infrastructure rather than on education, health, job training, etc.

Public investment is sometimes necessary in advance of private investment, to share some of the risk as in brownfield remediation, and in the preparation of infrastructure (the lack of Underground access to London Docklands remains a telling example of policy failure); but there are also examples of entrepreneurial initiative which have gone ahead of the public sector, as in the development of inner-city housing for middle and upper-income people. Several derelict areas, including Salford Quays Docklands, have been transformed into areas that support investment and employment, demonstrating the importance of scale or critical mass, and of investment and an overall development programme sustained over a long enough period (two decades) to bring about self-sustaining renewal and growth. The Salford Quays project combines 1.5 million square feet of office development, 400 housing units, leisure and recreation (three hotels, several restaurants), and a cultural centre (added when a dip in the property market took pressure away from commercial development) with two theatres and art galleries. Assets for development included the legacy of 19th Century buildings, cultural institutions and successful sports teams, as well as strong partnerships which reduce transaction costs by facilitating contacts between the public and private sectors, and in particular a pattern of public-private co-operation forged around the city's two Olympic bids and the successful bid to host the Commonwealth Games in 2002 (the 2006 Games will be held in Melbourne). These partnerships have helped Manchester to cope with the challenge of rebuilding the city's centre following a terrorist bombing in

June 1996 (displacement of 700 businesses with 50 000 square meters of retail space and an equivalent amount of office space).

Manchester Airport is the largest in the UK outside of London, with direct intercontinental flights. The airport is owned by a consortium of ten local authorities; Manchester itself owns 51 per cent. This key asset for development helps the city with inward investment promoted by Marketing Manchester Ltd. The universities help to stabilise the city's population (90% of the students live in Manchester), and are increasingly linked to private-sector development (spin-offs, incubators, etc.). The growth of the new economy has coincided with a period when central-city living has become attractive again; some 10 000 people, largely young and affluent, now live in the city centre. But this area is not yet suitable for family households, and the poor quality of schools in the city will only encourage families to remain in the suburbs.

Challenges for the future include strengthening competitiveness in a national economy heavily oriented toward the Southeast and London, limited co-operation with other cities in the region where many of the people employed in Manchester live, the city's low tax base and the uncertainty associated with dependence on national programmes for regeneration.

Boston

The Boston and Melbourne regions are almost identical in size; both have grown with immigration and around ports; the regeneration of port districts play a key role in spatial development; both are centres for cultural activities and education; and some of the same sectors are targeted for future growth in both cities (health care, biotechnology, ICT, tourism). Both cities have outstanding districts of Victorian buildings and parks. The contrasts are also significant. Fund management and locally-generated venture capital are significant in Boston (18 firms raised over \$10 billion for venture investment in 2001); more than Melbourne, the Boston economy fosters competitive, entrepreneurial initiative. Innovation itself is part of the region's heritage and tradition, and partly explains how it has successfully exploited new technologies. But this success also reflects an independent attitude which hampers efforts to promote regional planning, improve the supply of skilled labour and of affordable housing, and deal with problems of social integration, all of which involve issues related to local community control. Key regional assets in the Boston area, including some significant historic districts, are threatened due to a lack of regional co-operation, and there is a lack of consensus about what to do. Unplanned growth has contributed to sprawl, but in the absence of regional planning, it is as difficult to remediate brownfields as it is to curb the loss of open

greenspace. Suburban clusters apparently perform much better than urban districts, but contribute to car-oriented, uncoordinated suburban sprawl. Suburban areas need development to increase their tax base, while older urban areas want to resist further development that would be necessary to curb sprawl.

The Boston case study highlights Melbourne's under-developed asset as an historic city in Australia, and the potential for Melbourne's institutions of higher learning to intensify and broaden their social and economic impact on the city. Knowledge about and pride in Boston's historic role in the creative economy calls attention to its contemporary strengths. The creative arts, design fields, heritage and media sectors together employ about 4 per cent of the workforce. In 1994, the total combined resources of MIT-related companies would have formed the 24th largest economy in the world, employing more than one million people. The Massachusetts Technology Collaborative (established in 1994), which involves the state, communities, and the private sector, provides a forum for regional issues, invests in equity positions, and monitors the innovation economy with a yearly index of indicators (measuring invention and patent applications, technology licensing and royalties, new business starts, IPOs, etc.); all the major research universities have extensive industry partnerships.

Equally, the Boston case study highlights what can be done to design and protect the harbour shoreline, an issue of importance for the future of Melbourne. Many of Boston's famous neighbourhoods such as the Back Bay and South Boston waterfronts involve engineering and organisational efforts since the mid-19th Century. The Metropolitan Park System was conceived and founded to cope with the problem of assets developed over many jurisdictions. Contemporary large-scale infrastructure projects (Boston Harbour clean-up, burial of the Central Artery highway, have contributed to lifting the level of engineering expertise in the region, but have had considerable cost-overruns as well (and with minimal consideration of their impact on planning or land use, even of the two-dozen acres of land that will be released for development when the project is completed), thus highlighting the need for an integrative, strategic approach. This situation is accentuated by the tendency of many firms in the financial and services sector to leave the central business district for the outer suburbs.

The case study comparing Boston and Melbourne concludes in favour of a "a balance between the extremes of a private sector/university alliance that thrives on entrepreneurship, perhaps to the expense of community, and top down co-ordination and a system in which public regulation ensures that community objectives are respected, but may stifle business and university

initiatives. Boston and Melbourne have something to learn from each other on each of these scores”.

Policy Transfer and Diffusion

By comparison, Victoria is more interventionist than the State of Massachusetts, but less so than governments in France or the United Kingdom. Urban policy at some level is needed when urban regions face heavy restructuring and major infrastructure investments, so that land use and transport planning can be co-ordinated better with community development. All three comparative case studies highlight the lack of attention in their respective regions to the opportunity to create a pattern of development that ties in and benefits regional centres around them, something however which is an explicit objective of the DOI draft Strategy for Melbourne.

The Lille case study highlights the potential added value of improved transport links at the regional and international scale, an issue of great importance for Melbourne whose economy dominates Victoria but is not so much isolated internationally as it is inward-looking.

The Boston case study highlights the potential for Melbourne to invest in the city’s “unique culture, architecture and arts” and exploit the “*stories* of the city”, which are assets of increasing value in the information-based economy. This case study also calls attention to the importance of a risk-taking culture, while raising a question whether public policy can nurture it.

The Manchester case study highlights the importance of scale, and its role in helping to create the scope for more seamless cross-sectoral strategies including housing, training, job creation and environmental improvements. An important lesson for Melbourne is that planning frameworks can give investors confidence; these frameworks can and should have a higher degree of flexibility to accommodate change than more traditional, prescriptive land-use planning. Finally, the Manchester case study highlights the role that marketing and image-creation can play to change perceptions inside and outside an area, and the signal importance of creating strong partnerships and coalitions.

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